

**A
COMPARATIVE
PHONOLOGY
OF
HINDI AND PANJABI**

ARUN

Anwar Singh
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By

VIDYA BHASKAR ARUN



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FOREWORD

The present work is an attempt to institute a systematic comparison between the phonologies of two Modern Indo-Aryan languages, Hindi and Panjabi. The term 'phonology' in this treatment has been used in a wider sense to include phonemics and historical phonology. While the latter has become more or less stereotyped, the former is a growing science and it is only in the recent years that this science has engaged the attention of the linguisticians. The present generation is more interested in knowing the facts of the living languages than in the study of how and through which stages a particular language came into being. Historicism which was once the only approach to language study is now on the decline, and protests against it are increasing day by day. To quote one of such protests, "the present century has been characterised by a shift of emphasis away from historical and comparative linguistics to problems of synchronic analysis. This is undoubtedly a part of major intellectual movement with repercussions in all fields of study."¹

While this observation is a challenge to those who hold the historical treatment in high esteem, the present writer feels the necessity of bringing the synchronical and the diachronical treatment together, since language is an evolutionary process and the synchronical and the diachronical are only two different aspects of the same.

The work consists of two parts. The first part deals with the phonemic analysis of Hindi and Panjabi followed by a comparison of the phonemic systems of the two. A plan like this would naturally involve some sort of repetition, but it was essential to state the phonemics of Hindi and Panjabi separately, this being the first attempt in this direction, before a phonemic comparison could be made. The second part is a comparative study of the evolution of Hindi and Panjabi phonology. The main attempt is to show the mutual agreements and disagreements between the two languages in their treatment of different Old Indo-Aryan and Middle Indo-Aryan sounds. This study reveals the relationship between these languages in the past, their influence on each other and mutual borrowings whether in the MIA or NIA stage. The material presented here

1. *Maître Phonétique*, January-June, 1957, page 14.

may also be utilized for the reconstruction of the Proto-parent Hindi-Panjabi language.

My thanks are due to the many scholars who have contributed in one way or the other to this work, especially to Dr. Siddheshwar Varma, Dr. B. N. Prasad, Dr. S. M. Katre and Dr. A. M. Ghatage for their having gone through the typescript of this treatise and given many useful suggestions.

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Last, but not the least, the author is grateful to Dr. D. N. Shukla and Dr. Hazari Prasad Dwivedi of the Panjab University and to his friend and a former colleague Dr. Jagdev Singh of the Kurukshetra University for their occasional help and advice. He is no less thankful to the Panjabi Sahitya Akademi, especially its President Bhai Jodh Singh, Member of the Panjab Legislative Council, and a senior Syndic of the Panjab University, for undertaking to publish this work and to the Vishveshvaranand Vedic Research Institute Press, Hoshiarpur for doing its job sufficiently well in spite of the handicaps which a work like this with a lot of capped and dotted types entails.

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15th August, 1961.

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A NOTE ON TRANSLITERATION AND PHONETIC AND PHONEMIC TRANSCRIPTIONS

The system for transliterating or transcribing the Indian words, followed in this work, is the Geneva system with some modifications. The modifications with additions are as follows :

: after the short vowels a, i, u indicates that the vowels is long. The other vowels being long, the use of this mark is considered to be unnecessary in their case.

ṛ | with a small circle below denote the vocalised or syllabic r, l, i.e. ऋ, ॠ of Sanskrit, while ṛ with a dot below stands for the retroflex flapped sound (= ण in the Devanagari script) in Hindi and Panjabi.

æ, ɔ represent the low-mid front and back vowel sounds in Hindi and Panjabi. The usual transliteration with ai, au being inappropriate for these sounds, æ, ɔ have been used instead in the transliteration as well as in the phonemic transcription.

ai, au, which stand for Sanskrit diphthongs, also denote the MIA vowels in hiatus and the vowels in sequence becoming the diphthongal nuclei in Hindi and Panjabi.

ə, used in phonetic transcriptions, shows an unstressed central vowel, while in phonemic transcriptions it represents both the stressed and the unstressed allophones [ʌ] and [ə]. It is sometimes used to indicate the *svarabhakti* also.

ʌ is used only in the phonetic transcription and denotes an accented central vowel sound, the close (saṃvṛta) Sanskrit a, heard in such Hindi and Panjabi words as *kar* 'do', *mar* 'die' etc. and the English *son*, *hut* etc.

ɛ, ɔ indicate the short e, o vowels in Middle Indo-Aryan. ɛ denotes the Panjabi short e also.

ĩ denotes a non-syllabic semi-vowel i in C--V contexts.

~ placed above the vowel indicates that the vowel is nasalised.

gh, jh, dh, bh used for transliterating the Panjabi words, represent the Gurmukhi letters for the voiced aspirate series. Actually, there are no voiced aspirates in Panjabi, but their different modifications accompanied by tone initially, intervocally

and finally. These letters, therefore, do not represent the pronunciation, but are only a convenient way of writing.

' is a mark of low-rising tone. It is placed after a consonant followed by a vowel in Panjabi.

` indicates high-falling tone in Panjabi. It is placed above a vowel, final or followed by a consonant or a vowel.

v stands for the dento-labial spirant [v] as well as the semi-vowel [w], both in the transliteration and the phonemic transcription.

y represents both the palatal spirant [j] and the semi-vowel [i].

[] indicate the phonetic transcription.

/ / denote the phonemic transcription.

√ means verbal root.

> means 'progress in sound towards'.

< stands for 'descends from'.

* before a word indicates a hypothetical or reconstructed form.

ABBREVIATIONS

AMg=Ardha Magadhī Prakrit.

Can=Caṇḍa, Prakṛta-lakṣaṇa.

Coll=Colloquial.

E. Pkt=Eastern Prakrit.

Hc=Hemacandra, Siddhahemacandra-śābdanuśāsana.

J. Pkt.=Jain Prakrit.

Kr.=Kramadīśvara, Prakṛit Grammar (Saṅkṣipta-sāra).

Lah=Lahndā or Lahndī.

Ls=Lassen.

Maha=Maharāṣṭrī Prakrit.

Md=Mārkaṇḍeya, Prakṛta-sarvasva.

N.W. Pkt.=North-western Prakrit.

Obs=Obsolete.

S. W. Pkt.=South-western Prakrit.

Vr.=Vararuci, Prakṛta-prakāśa.

Wb. Bh.=Weber, Bhagavatī.

INTRODUCTION

The name 'Hindi' for the language is confusing. It signifies the language of Hind or India, in which sense any language belonging to India, even of the non-Aryan family, may be called by this name. This nomenclature is, in fact, of Muslim origin, and was given first to the people of our land called *Hind* by the Iranians, and then to the language also. Another name *Hindawī*, *Hindwī* or *Hinduī*, meaning literally 'the language of Hindus', also comes from the same source, the word '*Hindu*' being a Persian equivalent of Sanskrit '*Sindhu*'. Later, however, by the time of Amir Khusrau (1253–1325), the word Hindu came to signify non-Muslim Indians to distinguish them from the native Muslims who were called *Hindi*.¹ The original sense in both these cases was thus modified. But so far as the language is concerned, it would be interesting to note that Khusrau has used the two names Hindi and Hindwī indiscriminately (e.g. '*Hindawī ānand śādī aur sarūr*' ; '*Sōzano riśta bahindī sūī tāg*' ; '*Hindī bolī arsi ae*,' etc.). Curiously enough, Western Punjabi is still known by the name of '*Hindkī*'.

Whatever the original connotation of the word *Hindi* or *Hindwī* to the early Muslims who gave this name to the language, Hindi, at the present day, is the name of that North-Indian language, which is the literary and cultural vehicle of the majority of the people in Uttar Pradesh, Eastern and Southern Panjab, Rajasthan, Bihar and Madhya Pradesh, and which has been adopted to be the official language of the Indian Union by its constitution. In its spoken forms this language is the *lingua franca* of India, and thus very true to the literary sense of its name Hindi or Hindustani, i.e. belonging to India. Sometimes, the word Hindi is loosely used for all those dialects which have been linguistically grouped together under the two separate names of Western Hindi and Eastern Hindi, and also for such old literary forms as Braj, Awadhi, Maithili, etc. Linguistically, this usage is not apt. We take Hindi to be the language which has at its basis the *Khari Bol* or Vernacular

1. "Whatever live Hindu fell into the King's hands was pounded into bits under the feet of elephants. The Musalmans who were Hindi had their lives spared". Amir Khusrau in Elliot, *History of India*, III, 539, *Hobson-Jobson*, p. 315 (1886).

Hindustani, a dialect of Western Hindi, and which is distinguished from Urdu by its native style making free use of Sanskrit words. Geographically, Khari Boli or Hindustani is the local vernacular of Western Rohilkhand, the Upper Gangetic Doab, and the eastern parts of the district of Ambala. Being spoken in the north-western corner of the area occupied by Western Hindi, it has to its west either Panjabi or the Bangaru of the districts of Delhi and Karnal, to its north the Pahari dialects (Jaunsari, and Garhwali), and in the south and the east it is bounded by the Braj-Bhakhari dialect of Western Hindi. According to Grierson¹ the language of the State of Rampur and of the districts of Muradabad and Bijnaur, east of the Ganges and in Western Rohilkhand, possesses the strongest resemblance to literary Hindustani. For example, *pair* [pær], *hai* [hæ], *daur* [dɔr], *aur* [ɔr] of Standard Hindi are pronounced as such in Western Rohilkhand vernacular, but with a slightly less open pronunciation as [pær], [hæ], [dɔr], [ɔr] in the vernacular of Doab. Similarly the Upper Doab vernacular prefers *q*, *qh* to *γ*, *γh* in *badā* 'great', *caḡhnā* 'to mount', etc. for Standard Hindi and Western Rohilkhand vernacular *barā*, *caḡhnā*, etc. The Doab vernacular also shows preference for *ŋ*, *l* to *n*, *l*, which may be due to Rajasthani and Panjabi influence. Such variations are natural in a language spoken over such a large area.

The name 'Punjabi', likewise, is Persian in origin, and means literally 'the language of the Panjab'. But linguistically, Panjabi is, by no means, the only language spoken in the entire area known by the name of Panjab. In the east, Punjabi, of course, extends much beyond Sutlej, reaching upto Ghaggar, but the rest of the eastern Panjab is held by a dialect of Western Hindi, while in the west, i. e. the pre-partition western Panjab, it imperceptibly merges into Lahndi, a group of dialects historically related to Panjabi but strongly influenced by Dardic.² Thus Panjabi is bounded to the east by Vernacular Hindustani of Ambala and Bangaru of Karnal and East Hissar. To its south it has Bāgri and Bikanēri dialects of Rajasthani, spoken in East Hissar and Bikaner. To its north and north-east it is bounded by Pahari languages of the lower ranges of the Himalayas, and in the west it merges imperceptibly into Lahndi.

The earliest reference to this name Panjabi seems to have been made by a poet of Rajasthan, Sundar Das by name, who is said to be

1. L. S. I., Vol. IX, p. 63.

2. L. S. I., Vol. I, p. 135.

a contemporary of Akbar. It is, however, not known what speech, and with what boundaries, he actually meant by Panjabi. Abul-Fazal, the famous author of *Āīn-e Akbarī*, on the other hand, is definite about the character of the language which he calls Multānī. Hafiz Barkhurdar, a Muslim poet of Panjabi and the author of *Miftāhul Fiqa*, who probably flourished in Aurangzeb's time, describes the language of his verse as Panjabi. This reference is of very great literary as well as linguistic significance. But unfortunately it is yet to be investigated whether Hafiz of *Miftāhul Fiqa*, and the Hafiz who wrote the narrative poems of *Sassī Punṇū*, *Mirzā Sahibā* and *Yūsuf Zulaikḥā*, are one and the same person. The other names by which the language of the Panjab has been referred to are *Hindwī* and *Jaṭkī*. While the former was actually a mixed speech, the local dialect being interspersed with Perso-Arabic vocabulary, the latter refers to the people, the predominant Jatt tribe who spoke this language, and this name is still used among the numerous names for Western Panjabi.

The literary material available for the study of the oldest forms of Hindi and Panjabi is not sufficient. And also, it is not safe to rely upon this material written down centuries after its composition. Thus Khusrau's verse, which should be expected to show the earliest forms of Hindwī or Khaṛī Bōlī Hindi, has been much modified on account of its being handed down orally and, there is enough reason to suspect its authenticity so far as its language is concerned. Similarly in the poems ascribed to Farīd Shakar-Ganj (1173-1266), found in the *Ādi Granth*, we expect to find the oldest specimens of Multani, but of the 130 *saloks* and 4 *sabads* attributed to this sufi saint, not all may be his genuine composition. The language of many couplets appears to have been greatly modified according to the literary idiom of the 16th century when they were included in the *Ādi Granth*. Authenticity of the received texts of the poems by Gorakh is no less doubtful. The language of these texts as received is a mixture of Khaṛī Bōlī, Eastern Panjabi and Rajasthani, and does not appear to be much older than that of Kabir who also used a mixed dialect with

1. About Gorakh's time and birth-place there is no unanimity of opinion among the scholars. He has been variously described to be belonging to the 10th to 14th century A. D. and his birth place ranges from Peshawar to Bengal (vide Dr. Mohan Singh: *Gorakh Nath and Mediaeval Hindu Mysticism*, pp. 21-22; W. Briggs: *Gorakh Nath and the Kanphata Yogis*, pp. 229-230, 235).

the difference that the elements of Kharī Bōli and Braj-Bhākhā are more pronounced in his case.

Owing to the doubtful authenticity and the peculiarities of the literary tradition it is really difficult to get at the actual speech of the area and the time to which the writer belonged. All the same, it helps us to form some idea of the stage of development that New Indo-Aryan, in general, and the language of the area, in particular, had reached by that time.

In conglomerating the different languages and dialects—an act which was so popular at first with the Mohammedan writers, perhaps as a very natural course in the matter of introducing Perso-Arabic vocabulary at least, and later with the saint poets whether they belonged to Panjab or Vārāṇasī—we also see an attempt to find a common vehicle of expression, and the language which has most prominently been used in this conglomeration is either Hindi (Kharī Bōli) or Braj-Bhākhā. The latter, however, being the direct descendent of Śaurasēnī Prakrit, and becoming popular with the spread of the *bhakti* movement of Krishna cult, rose earlier into prominence. From the 16th to the 18th century it was a literary language *par excellence* of Northern India, extending also to Central India, Rajputana, and to some extent to the Panjab. The Muslim aristocracy of Northern India also felt its charm and came under its sway. The patronage of Mughal emperors to Braj-Bhākhā is too well-known, and the Mohammedan poets like Rahīm and Raskhān shall ever be remembered by the lovers of Braj-Bhākhā poetry. But Braj-Bhākhā was never a language of the masses. It remained, throughout, a specialised literary dialect rather than a popular one. Hindi, on the other hand, was popular, not as the language of literature but as *verkehrssprache* or business speech. It was cultivated long by the Mohammedan aristocracy at Delhi, but it was in Deccan that a form of this speech, carried by Mohammedan soldiers and adventurers from Northern India, hailing mostly from the Panjab and the Bangaru and Vernacular Hindustani dialects area, was first employed for literature, and this set an example for the language evolving at Delhi. The Deccani Hindi Poetry in its earlier phase was not so much Persianised as it became later. In fact, it was in the native tradition. Though written in the Persian script, it used Indian ideas and Indian vocabulary, and even in the matter of metre it followed the native Hindi style. It continued to be so upto

the 17th century. But from the 18th century onward the Delhi form of Hindi which had reached there in the wake of the Mughal army over-powered the Deccani Hindi, and a Persianised style began to develop for literature in the Deccan. The example was followed by the writers of the Delhi speech when a poet Wali brought his '*Rexta*' speech to Delhi and settled there about 1723. Even then, the language was not so much Persianised as in later times. As its name '*Rexta*' (scattered) shows, the Persian words were just 'scattered' in the line. But gradually it developed a highly Persianised literary style, and came to be known as *Urdū*. Now Urdu, as a language, is evidently a Persianised style of Hindi.

The other style, with a native tradition at its back and with native vocabulary being increasingly strengthened by a preponderance of Sanskrit words, developed into High Hindi. These two literary forms or styles did not exist separately in early days; at least there was no Urdu as opposed to Hindi in the 17th century. But by the middle of the 18th century a form of language admitting Perso-Arabic vocabulary had been established for writing poetry. This laid the foundation for a separate Persianised form, and when towards the end of the 18th century or in the beginning of the 19th century books were written in prose, the two forms developed side by side. Thus we see that while Munshi Sada Sukh Lāl (1746-1824) wrote his '*Sukh Sagar*', a translation of the Bhāgawata Purāṇa, in pure Kharī Bōli Hindi, the Bāgho-Bahār of Mir Amman (1804) and the '*Xirad Afroz*' of Hafizuddin Ahmad (1803-1815) were written in the Urdu form of the language. J. Gilchrist of the Fort William College at Calcutta encouraged the writing of prose in both the forms. The two last named Urdu books mentioned above were written at his instance at the Fort William College. Similarly, the '*Prēm Sāgar*' of Lallūji Lāl (1803) and the '*Nasiketopakhyan*' of Sadal Miśra, the books in Hindi prose, were also prepared under his direction. Between these works of early Hindi and Urdu prose the *Rāni Ketaki Kī Kahani* written by Inshā-Allah Khān stands unique as it starts with a promise to eschew foreign words. But unfortunately the breach, which had started once, could not be made up, rather it widened more and more. Thus Hindi (Kharī Bōli or Vernacular Hindustani), which forms the basis of High Hindi and Urdu, began its literary career quite early, as early as Khusrau's time, but it was more popular as *verkehrssprache* than as a literary speech, and it had

to strive hard against Braj-Bhākṣā before it could come to the forefront and attained its present position. As a dialect, it belongs to Western Hindi but forms a separate group with Bangaru as opposed to the Braj-Bhākṣā group which comprises Braj-Bhākṣā, Kanauji and Bundeli, and stands in a very close relationship with Panjabi, both being the -ā dialects.

We all know the position of Śaurasēni Prakrit in Middle Indo-Aryan speeches. With Mathura as its centre it was used over a very wide expanse of area as the spoken tongue. But as a language of literature and culture, it extended far beyond the limits of the Midland (*madhyadēśa*) as is seen from the predominant position assigned to it in the Sanskrit Drama in which all cultured people, when not habitually speaking Sanskrit, speak the Śaurasēni Prakrit, and also from the present position of NIA speeches around Western Hindi, and thus it must have influenced the dialects spoken in the areas properly belonging to other Prakrits, especially the parent Prakrits of Panjabi, Rajasthani, Gujarati and Eastern Hindi. Being looked upon as the most elegant of the Middle Indo-Aryan speeches, it was the Prakrit *par excellence* in literature, and it would not be improbable if in a later phase it assumed the name of *Mahārāṣṭri*, meaning not 'the language of the Mahārāṣṭra', but 'the language of the great kingdom' or 'great national language', because of its being widely spread in the whole of Northern India. Later, Śaurasēni Apabhraṁśa, which succeeded it, occupied the same position among the Apabhraṁśas, the late Middle Indo-Aryan dialects, from which emerged the various New Indo-Aryan speeches. What the Prakrit grammarians have described under the name of Nāgara Apabhraṁśa appears to be the standard literary form of Śaurasēni Apabhraṁśa which was used in a much wider area than its predecessor. Mārkaṇḍeya, a Prakrit grammarian, has enumerated as many as twenty seven Apabhraṁśas, but all of them cannot be considered to have been literary dialects. In fact, a majority of them were only local dialects or, at the most, styles of Nāgara Apabhraṁśa with some peculiarities of the dialects of the area in which it was used. The same writer, therefore, himself remarks that Nāgara, Vṛācaḍa and Upanāgara, these are the three Apabhraṁśas, the others, because of slight differences, are not to be taken as different from these. The literary Nāgara Apabhraṁśa must not necessarily be based on Śaurasēni alone, rather it appears to have at its basis more than one dialect, especially

the dialects current in the Panjab, Rajasthan and Gujarat beside Western U. P. From the examples quoted by Hemacandra we can well imagine a composite character of Nagara Apabhramśa; for example, in "*bhallā huā ju māriā, bahini maharā kantu : lajjejjam tu vaassiahu, jai bhagga gharu entu*" the *ā*-ending *bhallā, huā, māriā, maharā, bhagga* clearly show an *-ā* dialect at the basis; similarly in "*dholla māi tuhā vāriā mā kuru dihā manu*", *vāriā* and *dihā* come from an *-ā* dialect.

It may be said that there was not much difference between the dialects spoken in the Eastern and Central Panjab on the one hand and those of Western U. P., Gujarat and Rajasthan on the other, and the literary speech based on these dialects held them together for many centuries in the first millenium of the Christian era. But in the early centuries of the second millenium when literary Apabhramśa was in full vigour, being in general employment from Panjab to Bengal, the dialects at its basis began to develop independently; then they separated from each other and, after some time, grew into full-fledged languages. The process of disintegration might have taken two to three centuries, and the tendency perhaps appeared first in the eastern dialects, because they were not so closely related to the literary speech as the western dialects which formed its basis. Geographically, too, the eastern dialects were spoken in far distant areas which being politically independent organised themselves into separate national entities. This quickened the rise of the regional dialects which, in their turn, contributed to the national consolidation. There were other factors also; the most important being the desire to reach the masses. The leaders of the thought of the age, who wanted to reach the masses, found in the regional dialects a very powerful instrument of propagation. Thus in the eastern tracts we find Sarahapā (760 A. D.) preaching his gospel in a form of Apabhramśa which was strongly coloured with the vernacular of the area. This should certainly have given a fillip to the eastern vernaculars to come into their own earlier than their sister vernaculars in the west, and an old Bengali literature of songs may be said to have come into being from the 10th century A. D. But, in the west, the Apabhramśa tradition continued right upto the 14th century, and even afterwards when the new vernaculars had been fully established and essayed their beginning in literature. The later Apabhramśa, however, shows itself mixed with the vernacular, but the latter could

not be fully established until it was taken up by the great masters like Gorakh, Kabir and Nanak as an instrument for the propagation of their thought.

Of the western vernaculars which thus took rise, Braj-bhākha may be said to be the true descendent of Śaurasēni Apabhraṃśa, as it is the most representative of all the dialects of Western Hindi. As opposed to Vernacular Hindustani and Bangaru, both -a dialects, it is mainly -au dialect, a characteristic which it developed from o endings of Śaurasēni Prakrit left in hiatus after the elision of intervocal stops. In Kanauji and Bundeli, the other dialects of Western Hindi, the au shortened to o. Rajasthani also goes with Kanauji and Bundeli. But Vernacular Hindustani and Bangaru agree with Panjabi in having their strong masculine substantives, adjectives and participles ending in ā. This ā ending characteristic of Vernacular Hindustani may be said, as it appears, to be borrowed from Panjabi. But we have seen from the verses quoted by Hemacandra that an ā-ending Apabhraṃśa already existed, and that it was amongst the bases of the literary (Nāgara) Apabhraṃśa. The following more verses from Hemacandra's grammar will support this view :

*lonu vilijjai pāniēa ari khala mēha ma gajju ;
bāliu galai su jhumpaḍā gōri timmai aiju.*

"The salt is disappearing on account of water (rains). O wretched cloud, roar not. That burnt but is getting soaked. Now the fair-faced shall be drenched."

*aggiē unḥau hōi jagu vāē sialu tēwa ;
jō punu aggin sialā tasu unḥatānu kēwa.*

"The world is heated by the fire and cooled by the wind. How can heat be acquired by an object which is rendered cool by the fire ?"

*vippia ārau jai vi piu to vi tam anahi aiju ;
aggina dadḍha jai vi gharu tō tē aggin kajju.*

"Although my beloved does ill to me, yet bring him (here) today. Though the fire burns the house, it cannot be dispensed with."

*jau pavasantē sahī na gaya na mua viōē tassu ;
lajijjai sandēsaḍā dintehī suhaya janassu.*

"I did not accompany my friend when he departed, nor did I die in separation. I, therefore, feel shy in sending the message to him now."

*jai raccasi jā it̥hīaē hīaḍa muddha suhava ,
lohē phuṭṭanaēṇa jīwa ghaṇā sahēsaī tāva.*

"If you become fond of whatever you look at, O' my charmed heart, you will have to bear greater heat like tempered steel."

*ammaḍi pacchāyāvaḍa piu kalahiau viāli ;
ghaṭ vivariri buddhaḍi hōi viṇāsaho kāli.*

"O mother, I repent that I picked up a quarrel with my beloved at eventide. The intellect goes astray at the time of calamity."

To add to the above ā-ending words, *bāḍhā*, a *tadbhava* form, perhaps from Skt. past passive participle *vardhita*, is found in the following couplet by Sarahapā :

*akkhara bāḍhā saala jagu, nāhi nirakkhara kōi ;
tāva se akkhara ghōliyā, jāva nirakkhara hōi.*

ā-ending vocatives also are of common occurrence in the Apabhraṃśa verses quoted by Hemacandra in his Prakrit grammar ; thus for example :

1. *bappihā piu piu bhanavi kittiu ruahi hayāsa*
(*bappihā* = H. *papihā*, P. *bābihā*).
2. *hiyaḍa phuṭṭi tadatti kari kālakkevē kaim*
(*hiyaḍa* = H. *hiya* < Skt. *hṛdaya*).
3. *pahiya diṭṭhi goraḍi diṭṭhi maggu nianta* (*pahiya* = *pahiya* < Skt. *pathika*, cf. Sandēśa Rūsaka : *lajjijjau sandēśaḍau dinti pahiya piyāsu*)
4. *mai mittadā pramaṇiau pāi jēhau khalu nahim*
(*mittadā* = H. *mit*, P. *mitt*, *mittar* < Skt. *mitra*).
5. *jīwa dōngara tiwa koṭṭarai hīa viṣūrahi kaim*. (*hiā* = H. *hiya*)
6. *bhamarā etthu vi limbaḍai ke vi diyahaḍa vilambu.*
(*bhamarā* = H. *bhāvar*, P. *bhōrā*).

This agrees with the Panjabi characteristic of forming vocatives by adding *a* to the stem. In Panjabi this tendency is so strong that even the Perso-Arabic words used in the language appear with *a* augmented at the end, e. g. *rabbā* 'O God' from Arabic *rab* ; *yārā* 'O Friend' from Pers. *yar* ; *dilā* 'O heart' from Pers. *dil*. Apabh. *mittadā* in the line of verse quoted above can be well compared with Panj. *mittarā* and *yārā* ; the latter in its oblique form is found used by Guru Gobind Singh : "*yārē dā satthar caṅgā bhatṭh khērēḍā da raihnā*", and the pleonastic *ra* in this case denotes affection, but

mittarā is just the augmented form with *ā*. Pleonastic *rā*, *rī* are very common in Panjabi as *ḍo* or *ṛo* in Rajasthanī. In some cases, however, the pleonastic restricts the sense to imply either smallness or affection, or sometimes contempt.

It will not be without interest to compare here a couplet found in Hemacandra's grammar with one, almost identical, in the *Sannēha Rāsa* (Sandēśa Rāsaka) of Abdul-rahman of Multān, a Muslim poet of Apabhramśa who flourished about the 12th century. The couplet in Hemacandra's grammar runs as follows :

jau pavasantē sahū na gaya na mua viōē tassu :
lajjijai sandēśadā dintehī suhaya-janassu.

And the couplet in the *Sannēha Rāsa* is as follows :

jasu pavasanta na pavasiā muia viōi na jāsū :
lajjijau sandēśadāu dinti pahya piyāsū.

These verses are so strikingly similar that one cannot regard them other than two versions of the same. At present, it is not necessary to go into the question as to which one is the original. I just want to point out that an Apabhramśa dialect with endings in *ā* co-existed with the popular *u*-ending Apabhramśa, and that it generally favoured the dropping of *u* at the end either by contraction resulting into the lengthening of the preceding vowel or by pronouncing it slightly so as to become quiescent. *Sandēśadā* in Hemacandra's verse compared with *sandēśadāu* in Sandēśa Rāsaka and *gaya*, *mua* without *u* at the end will show this point.

The existence of an *-ā* dialect of Apabhramśa being thus evidenced, it may be assumed that this dialect, which perhaps originally belonged to the area now covered by Panjabi, extended itself eastward and southward to the adjoining areas where Vernacular Hindustani and Bangaru are now spoken. While the dialects in Panjabi area retained the Middle Indo-Aryan characteristic of pronouncing double or long consonants with short vowels, the dialects in the adjoining area went with the Braj-Bhākha group in preferring single consonant with long vowel. Bangaru and Vernacular Hindustani of the Upper Gangatic Dab have a peculiar characteristic, common to both, but not shared by the other dialects of Western Hindi. It is that an intervocal consonant is *fortis* after an accented long vowel. The length of the vowel, in such cases, is slightly

reduced in pronunciation, though the writing represents a fully long vowel. This tendency is properly against the spirit of Western Hindi which simplifies the Middle Indo-Aryan double or long consonants to single ones and then compensates the loss by lengthening the preceding vowels. On the other hand, it is very strong in Panjabi which resists the simplification of long consonants and preserves the original vowels, short or long. In a language to which preponderance of long consonants gives a clear-cut characteristic tone, it is but natural that a single consonant after a long vowel should also become long. The oblique plural of *lok* 'people' is therefore *lokkā* instead of *lokā* (though written with single *k*) in Panjabi. Similarly the participle *t* is pronounced as *tt* in *pīṭā* 'drunk' *kīṭā* 'done', *sītā* 'sewn' etc. In Poṭhoārī, a dialect of Western Panjabi, the tendency to prolong the consonant is found even where it follows a short vowel as in *pattā* for *patā* 'information'. Thus the *fortis* pronunciation of the intervocal consonants after an accented long vowel in Vernacular Hindustani and Bangaru would appear to be due to the influence of Panjabi, but it would be more proper to explain it as an inheritance from the old *-ā* dialect which was once the common basis of Panjabi, Bangaru and Hindustani.

From the above we can see the hand of Panjabi in the making of Hindi as we know it today. Many of its words, such as *sab* 'all', *kal* 'tomorrow' or 'yesterday', *sac* 'truth', *lagnā* 'to be attached' or 'to begin', *lambā* 'long', *bicchnā* 'scorpion', *bijli* 'lightning', *pakkā* 'firm' and *pakā* 'ripe', *acchā* 'well' etc., so commonly used in Hindi, are either due to the influence of Panjabi or imposed Panjabi forms. We have discussed at places the mutual influences of these languages in detail in the body of this work. Suffice it to say here that Hindi owes many of its characteristics to Panjabi. It may be said with Grierson that Hindi as a vernacular (i.e. Vernacular Hindustani) is that form of Western Hindi which shows the Braj-bhākhā dialect shading off into Panjabi.¹ But this statement is in contradiction with another statement of the same author in which he says that the substratum of Panjabi is a language of the Outer Circle akin to the modern Lahndā, while its superstructure is a dialect of Western Hindi²; that is to say "that an old form of Hindustani (spoken on both sides of the river Jamuna and in the Upper Gangetic Doab) has

1. L. S. I. Vol. IX, p. 65.

2. *Ibid.*, p. 615.

gradually spread over the whole of the Eastern Panjab, superseding or overlying the old Lahndā language, as far, at least, as the upper half of the river Chenab."¹ In fact, we should say that the *ā* dialect, the common basis of Panjabi and Vernacular Hindustani, had two developments. While in the western area in which the language has always been conservative in character, the dialect preserved the Apabhramśa characteristic of double consonants with short vowels, the dialect in the other area came under the sway of the neighbouring Śaurasēnī dialect, the parent of Brajbhākhā, and this went forward to simplify the double consonants. Consequently we have two different languages Panjabi and Vernacular Hindustani. The river Ghaggar, anciently known as dṛṣadvatī, in the Ambala District, may be taken as the boundary line between the two languages. Kinship of these languages reflects itself in many common characteristics, and it is because of these common characteristics that Panjabi sometimes appears to be a dialect of Hindi, and a great authority like Grierson has gone so far as to suggest that in the development of Panjabi an old Lahndā dialect has been superseded by an old form of Western Hindi.

Even in its development as a literary form under the name of Urdu, Hindi owes much to Panjabi influence. It is held by some scholars that Urdu grew out of Panjabi. It was T. Grahama Bailey who first mooted this idea. His main argument was that more than a hundred years before the Muslim conquest of Delhi the Turk armies remained at Lahore, and the language which these foreigners first adopted in India must be that current in the Panjab. This view has further been advanced and supported by Muhmud Shairani and Dr. Sayyed Mohiuddin Qadri Zor. We may agree with this view in so far as the dialect spoken at Lahore in the Panjab was the first to be adopted by the Muslim conquerors. But as we have seen before, an *-ā* dialect was already in existence and it was the common basis of the dialects in the Vernacular Hindustani, Bangaru and Panjabi area. The dialects in all the three tracts in those days should not have been very different from each other, and the dialect thus picked up by these foreigners at Lahore, when carried to Delhi, did not appear to them to be materially different from the Delhi dialect. But soon the Panjab dialect fell into background, though the tone and the characteristic it supplied to the new speech remained.

1. L. S. I. Vol. IX, p. 614.

We might, therefore, imagine that although the basis for the new speech was initially supplied by old Panjabi, the dialects round about Delhi and Meerut characterised the speech. The Muslim contact no doubt stimulated its growth, spread and even literary employment, but it could not be an artificial language, transplanted from the Panjab into Delhi and then nursed in the Camp and Court of Muslim rulers. The case is, however different with the Deccani form of Hindi which developed among its Muslim speakers only and had, therefore, no living contact with the people of the area who spoke a different speech. The variety of forms found in Deccani is not like one natural in a speech, but is due to the circumstances in which this speech developed far from its original home. Judging from the specimens of early Deccani poetry and prose and the kind of speech spoken at present, it may be said that the ancestors of the present speakers of Deccani came from not one single part of Northern India, though the largest number of them might have hailed from Panjabi-cum-Bangaru area. Deccani may, thus, be a sister-speech to Kharī Bōlī, but not the same, nor its earlier form or stage.

In the present work we have dealt with only the phonological aspects of the two languages, Hindi and Panjabi, and have shown their mutual agreements and disagreements, borrowings and influences, assigning reasons wherever it has been possible to do so. The treatment of other aspects has been left for a future volume. We may, however, indicate that the agreement in morphology is even greater than in phonology. The very fact that both are -ā dialects, that both form their direct plural and oblique singular with *z* in ā-stems and that both use *nā* as post-position for the agent case, the oblique pronominal forms *is*, *us*, *jis*, *kis*, and the termination *gā* for the future tense, combined with many other similarities, is enough evidence of the common ancestry of the two languages. But it is yet to be investigated how these languages have developed their different phonologies and morphologies, and in what way they still stand close to each other. This treatment will indicate a very close and intimate relationship between the phonological systems of the two languages, and from the facts discovered, it would appear that the affinities which these languages show are much more important than their mutual differences. Perhaps no two languages agree so much with each other,

PART I

THE PHONEMIC SYSTEMS OF HINDI AND PANJABI :
A COMPARATIVE STUDY

HINDI PHONEMES

1. For the purpose of this work, Hindi means the present literary form of the language which, though mainly based on Kharī Boli, a dialect of Western Hindi, has a preponderance of Sanskrit words in its vocabulary. This latter fact is responsible for the reintroduction of certain Old Indo-Aryan sounds which had dropped or been modified during the course of their development in Middle Indo-Aryan, and this change in the norm affects, to some extent, the original phonemic system of this speech. Besides, some new fricatives have been added to the speech as a result of borrowings from Persian and Arabic.

2. Thus Hindi, at present, has the following phonemes:—

(a) Segmental

Vowels :

Class I /i ē u/

Class II /i: e æ a: ō o u:/

Class III /ai au/

The vowels of the Class I are phonetically short and those of the Class II are long. The Class III consists of pure diphthongs.

Consonants :

(i) STOPS

	<i>Bilabial</i>	<i>Dental</i>	<i>Retroflex</i>	<i>Palatal</i> ¹	<i>Velar</i>
<i>Vcls.</i>	/p ph/	/t th/	/ʈ ʈh/	/c ch/	/k kh/
<i>Vcd.</i>	/b bh/	/d dh/	/ɖ ɖh/	/j jh/	/g gh/

The second in each of these pairs is aspirate.

(ii) CONTINUANTS

/m mb n nh ŋ N f v s z ś y l lh r ɽ x h/

These may be further classed as follows:—

	<i>Labial</i>	<i>Dental</i>	<i>Alveolar</i>	<i>Retroflex</i>	<i>Palatal</i>	<i>Velar</i>	<i>Glottal</i>
<i>Nasals</i>	m mb		n nh	ŋ			
<i>Fricatives</i>							
<i>Vcls.</i>	f	s			ś	x	
<i>Vcd.</i>	v	z			y		h
<i>Laterals</i>			l lh				
<i>Rolled</i>			ɽ				
<i>Flapped</i>				ɽ			

1. /c, ch, j, jh/ are phonetically affricates. However, phonemically, they pattern as stops.

The distinctive feature of the nasal phoneme [N] which could not be classed above is nasality only. It goes by the quality of the occlusive or the constrictive that follows, and therefore takes the prosodic colouring according to its context.

[y, v] assume the phonetic value of non-syllabic vowels i, u respectively when they occur in C—V sequence, and hence may be described as semi-vowels.

(b) **Supra-segmental**

Nasalisation : /~/

Stress : / ' / (Not marked except when phonemic).

Consonant Length : /:/

Word-juncture : indicated by space.

Distribution of Vowel Phonemes :

3. All the vowels except those of the Class III, are simple vowels, and they show contrasts in tongue position (front, central and back), tongue height (close, half-close, half-open, open) and rounding (back vowels are rounded, others are unrounded).

4. All the simple vowels occur initially, medially and finally except that [ə] occurs rarely before word juncture. The following may be noted as examples :—

[ə] [ʌ] (occurs in stressed syllables only) : [əb] 'now', [kəb] 'when', [pəttə] 'leaf', [chəkrə] 'cart', [pəta] 'knowledge'.

[ə] (occurs in unstressed syllables only) : [jələ:] 'burn', [rətən] [rʌtən] 'jewel'.

[a:] [a:ka:s] 'sky', [a:m] 'mango', [ka:la] 'black', [ka:m] 'work', [məha:ra:ja:] 'king', [bhāla:] 'good'.

[i] [is] 'this', [sir] 'head', [vica:r] 'thought', [kuti [y] a:] 'bitch', [jati] 'community'.

[i:] [ki:l] 'nail', [i:sa:] 'Christian', [rəsi:li:] 'delicious'.

[u] [us] 'that', [churi:] 'knife', [burə:] 'bad', [śətrū] 'enemy'.

[u:] [u:sdr] 'barren', [cuk] 'omission', [ulla:] 'owl'.

[e] [ek] 'one', [becna:] 'to sell', [tel] 'oil', [de] 'give', [rəhe] 'may remain'.

[æ] [æsa:] 'like this', [pæsa:] 'pice', [kəsæla:] 'astringent', [hæ] 'is'.

- /o/ /os/ 'dew', /koi:/ 'somebody', /pāros/ 'neighbourhood',
 /karō/ 'cut' (II pers. Imp.).
 /ɔ/ /ɔghāt/ 'steep', /kɔn/ 'who', /bichɔna:/ 'bedding', /sɔ/
 'hundred'.

Vowel Sequences

5. Sequences of vowels, generally, consist of two vowels, but sequences of three vowels are also found. The following are the patterns of sequences:—

Sequences of two vowels

- /VV:/ : ai:, ae:, ia:, ie:, io:, ui:, ue:, ua:, uo
 /ai:/ : /kai:/ 'some', /nai:/ 'new', /gai:/ 'went'.
 /ae:/ : /nae:/ 'new' (mas. pl.), /gae:/ 'went' (mas. pl.).
 /ia:/ : /di[y]a:/ 'lamp', /li[y]a:/ 'took'.
 /ie:/ : /calie/ 'let us go', /milie/ 'let us meet'.
 /io:/ : /larkio/ 'O girls'.
 /ui:/ : /sui:/ 'needle', /hui:/ 'became' (fem. singular).
 /ue:/ : /hue/ 'became' (pl.).
 /ua:/ : /hua:/ 'became' (singular), /kuā:/ 'well'.
 /uo:/ : /sardhuo/ 'O saints' (Vocative).
 /V:V:/ : ai:, ae:, a:o, oi:, ei:, ee:, ua:, ui:
 /ai:/ : /nari:/ 'barber', /bhai:/ 'brother'.
 /a:e/ : /jare/ 'may go', /la:e/ 'brought'.
 /a:o/ : /kha:o/ 'eat', (Imp. II. pl.).
 /oi:/ : /roi:/ 'wept', /soi:/ 'slept'.
 /oe/ : /khoe/ 'lost', /dhoe/ 'washed'.
 /ei:/ : /khe:/ 'propelled' (applies to boat).
 /ee/ : /see/ 'hatched'.
 /ua:/ : /sua:/ 'big needle'.
 /ui:/ : /ru:/ 'cotton'.

Sequences of three vowels

- /V:VV:/ : a:ie, eie, oie, a:io
 /kha:ie/ 'please eat', /kheie/ 'please propel', /soie/ 'please
 sleep', /bha:io/ 'O brothers'.

In /bhaia:/ also, we have a sequence of three vowels, but the pattern is /VVV:/. Such patterns are rare in Hindi, but quite common in the colloquial speech and the dialects. In such cases sequences of two vowels before a final long vowel tend to become diphthongs and hence mono-syllabic.

In rapid speech, sequences of two vowels alone, also, appear to become diphthongal nuclei.

Distribution of Consonant Phonemes :

6. All consonants, except /ɳ, N, mʱ, nʱ, lʱ, ɽ/ occur initially, medially and finally ; /ɳ, nʱ, lʱ, ɽ/ do not occur initially, but in all other positions ; /N, mʱ/ occur medially only.

Examples :

- /ɸ/ [p] /pa:pi:/ 'sinful', /pa:p/ 'sin'.
 /ph/ [ph] /phə/ 'fruit', /phu:phi:/ 'father's sister', /dəph/ 'kind of drum'.
 /b/ [b] /bæl/ 'bull', /ba:bu:/ 'baboo', 'clerk', /kubrə:/ 'hump-backed', /səb/ 'all'.
 /bh/ [bh] /bhəla:/ 'good', /səbbi:/ 'all', /lobh/ 'greed'.
 /t/ [t] /təb/ 'then', /bātē/ 'matters', /kutta:/ 'dog', /sa:t/ 'seven'.
 /th/ [th] /thorə:/ 'little', /kətha:/ 'story', /pəttḥər/ 'stone', /sa:th/ 'with'.
 /d/ [d] /da:d/ 'ring-worm', /məda:ri:/ 'juggler', /cā:d/ 'moon'.
 /dh/ [dh] /dhokha:/ 'deceit', /bədha:i:/ 'congratulations', /a:dh/ 'half'.
 /t/ [t] /tā:g/ 'leg', /choṛi:/ 'small', /dəpəṭ/ 'rebuke'.
 /th/ [th] /thokār/ 'kick', /kəṭhin/ 'difficult', /ka:th/ 'wood'.
 /ḍ/ [ḍ] /ḍa:ku:/ 'dacoit', /ləḍḍu:/ 'sweet balls', /la:ḍla:/ 'beloved', /la:ḍ/ 'affection'.
 /ḍh/ [ḍh] /ḍha:rəs/ 'consolation', /ḍher/ 'heap', /buḍḍha:/ 'old man'.
 /ṛh/ /bu:ḍha:/ 'old man', /ba:ḍh/ 'flood'.
 /c/ [c] /cəkəkər/ 'wheel', /lēcək/ 'flexibility', /kəcca:/ 'raw', /səc/ 'truth'.
 /ch/ [ch] /chət/ 'roof', /bəchra:/ 'calf', /bicchu:/ 'scorpion', /piche/ 'after', /ri:ch/ 'bear'.
 /j/ [j] /jəb/ 'when', /ra:ja:/ 'king', /la:j/ 'shame'.
 /jh/ [jh] /jhəgrə:/ 'quarrel', /sa:jhi:/ 'co-sharer', /bojh/ 'load'.
 /k/ [k] /kurta:/ 'dog', /bəkra:/ 'he-goat', /eka:/ 'unity', /ek/ 'one'.
 /kb/ [kb] /kha:na:/ 'meals', /cəkha:na:/ 'to taste', /pokhṛ/ 'pool', /dekh/ 'see', /sa:kh/ 'credit'.

- /g/ [g] /gol/ 'round', /pa:ga:l/ 'mad', /pəgri:/ 'turban', /log/ 'people'.
- /gb/ [gh] /ghora:/ 'horse', /kərg̃ha:/ 'hand-loom', /ba:gh/ 'tiger'.
- /m/ [m] /ma:/ 'mother', /koməl/ 'tender', /lamba:/ 'long', /ka:m/ 'work'.
- /mh/ [mh] (occurs intervocalically only): /kumha:r/ 'potter', /tuhẽ/ 'to you'.
- /n/ [n] /na:ɪ/ 'barber', /əna:j/ 'grain', /ənn/ 'food', /a:n/ 'prestige', /din/ 'day'.
- [n] (occurs before dental stops) /ənt/ 'end', /gənda:/ 'dirty'.
- /nh/ [nh] (occurs intervocalically and finally): /unhẽ/ 'to them', /ka:nh/ 'Krishna'.
- /N/ [ñ] (occurs medially before velar stops): /rəNga/ 'colour', /gəNga:/ 'Ganges'.
- [ñ] (occurs only before a palatal stop): /məNc/ 'stage'.
- [N] (occurs before /s, z, ś, y, v/): /səNsa:r/ 'world', /məNzi:/ 'destination', /səNśəy/ 'doubt', /səNyog/ 'chance', /səNva:d/ 'dialogue'.
- /ṇ/ [ṇ] (does not occur initially, but in all other positions) /va:ṇi:/ 'voice', /pəṇdit/ 'Pandit', /prəṇ/ 'vow'.
- /f/ [f] /fəsa:l/ 'crop', /kəfəṇ/ 'cloth cover for the dead-body', /sa:f/ 'clean'.
- /v/ [v] /vərs/ 'year', /səvera:/ 'morning', /ba:vla:/ 'mad', /nəv/ 'new'.
- [w] /svər/ 'voice', /gā:v/ 'village'.
- /s/ [s] /səb/ 'all', /da:si:/ 'slave-girl', /æse/ 'like this', /kisa:n/ 'cultivator', /dəs/ 'ten', /pa:s/ 'near', 'with'.
- /ś/ [ś] /śəkkər/ 'brown sugar', /nəśa:/ 'intoxication', /dusmən/ 'enemy', /vərs/ 'year', /na:ś/ 'destruction'.
- /z/ [z] /zəruri:/ 'necessary', /zor/ 'strength', /səza:/ 'punishment', /nəzər/ 'sight', /gəz/ 'yard'.
- /y/ [y] /yug/ 'age', /ya:d/ 'remembrance', /a:ya:t/ 'import', /yogy/ 'able'.
- [i] /pyar/ 'love', /nya:y/ 'justice'.
- /l/ [l] /log/ 'people', /ka:la:/ 'black', /bəl/ 'force', /ba:l/ 'hair'.
- /lh/ [lh] (occurs intervocalically and finally): /cu:lha/ 'fire-place', /nəlh/ 'name of a Dīngal poet'.
- /r/ [r] /ra:ja:/ 'king', /dhərti:/ 'earth', /bha:ri:/ 'heavy', /bha:r/ 'load', /ca:r/ 'four'.

- /r/ [r] (occurs non-initially, i.e. medially, intervocalically and finally): /dhərkən/ 'throb', /bərta:/ 'strike', /ləra:/ 'fight', /kəra:/ 'hard', /ba:r/ 'hedge'.
- /x/ [x] /xali:/ 'empty', /xu:b/ 'well', /buxa:r/ 'fever', /dəxəl/ 'interference', /dɔzəx/ 'hell'.
- /h/ [h] /həm/ 'we', /səhara:/ 'support', /loha:/ 'iron',
[ɦ] /ra:ɦ/ 'path'.

Long Consonants:

7. Long consonants occur medially between short vowels or between short and long vowels. For the sake of convenience long consonants are written with double consonant symbols

Examples:

- /kk/ [k:] /cəkkər/ 'circle', /cəkki:/ 'grind-mill', /məkki:/ 'maize'.
- /gg/ [g:] /ḍuggi:/ 'small drum'.
- /cc/ [c:] /səcca:/ 'truthful', /pəccər/ 'small piece of wood'.
- /jj/ [j:] /ləjji/ 'ashamed', /dhəjji:/ 'tatter'.
- /tt/ [t:] /pətti:/ 'a small board for writing', 'bandage-cloth', /təttu:/ 'pony'.
- /dd/ [d:] /ləddu:/ 'sweet ball', /həddi:/ 'bone'.
(It occurs finally also, e.g. /ujədd/ 'rustic, lout', /ləhədd/ 'ravine')
- /t/ [t:] /pətta:/ 'leaf', /kutta:/ 'dog', /səttər/ 'seventy'.
- /d/ [d:] /bhədda:/ 'ugly', /ləddu:/ 'beast of burden'.
- /pp/ [p:] /kuppa:/ 'can', /chəppər/ 'thatched roof'.
- /bb/ [b:] /dəbba:/ 'a compartment in train', /dhəbba:/ 'blot'.
- /nn/ [n:] /pənna:/ 'leaf of a book', /gənna:/ 'sugar-cane', /ikənni:/ 'one-anna piece'. (It occurs finally also, e.g. /ənn/ 'food').
- /mm/ [m:] /əmma:/ 'mother'.
- /yy/ [y:] /nya:yy/ 'just'.
- /ll/ [l:] /billi:/ 'cat', /chəlla:/ 'ring'.
- /rr/ [r:] /chərra:/ 'bullet', /thərrama:/ 'to tremble with fear'.
- /vv/ [v:] /nəvve/ 'ninety'.
- /ss/ [s:] /rəssi:/ 'rope', /əssi:/ 'eighty'.

Consonant Clusters :

8. Clusters occur initially, medially and finally.

Initial Clusters :

9. Initial clusters are composed of two consonants. Three-consonant clusters are rare ; e.g.

/prāśn/ 'question', /krodh/ 'anger', /sthān/ 'place', /bhrām/ 'illusion', /spāśt/ 'clear'; /stri:/ 'woman' is generally pronounced as /istri:/ with a prothetic [i], but in /strain/ 'effeminate', a three-consonant cluster is initially pronounced.

10. Initial clusters consist of—

- (a) Stop + rolled or lateral,
- (b) Nasal + rolled, lateral or fricative,
- (c) Fricative + rolled or lateral,
- (d) Fricative + stop, nasal or fricative,
- (e) Stop + fricative.

(a) *Stop plus rolled or lateral :*

11. All voiceless and voiced non-aspirates except [c, j], and all voiced aspirates except [jh, dh] occur before [r]. No voiceless aspirate occurs initially before rolled or lateral.

Examples :

- /kr:/ /kru:r/ 'cruel', /krodh/ 'anger'.
 /gr:/ /grāhṇ/ 'eclipse', /grānth/ 'book', /gram/ 'village'.
 /ghr:/ /ghrina:/ 'hatred' (in writing the cluster is not shown ; instead the syllabic r̥ is used), /ghraṇ/ 'sense or organ of smell'.
 /tr:/ /trāk/ 'truck'.
 /ḍr:/ /ḍra:ma:/ 'drama'.
 /tr:/ /triveni:/ 'the confluence of Ganges, Jamna and Saraswati', /trikoṇ/ 'triangle', /treta:/ 'name of an age', /truṭi/ 'lapse'.
 /dr:/ /drāvy/ 'matter', /droh/ 'enmity'.
 /dhr:/ /dhruv/ 'firm' or 'pole-star', /dhrupād/ 'a kind of the Indian classical music'.
 /pr:/ /prāsiddh/ 'famous', /prāsānn/ 'happy', /prāha:r/ 'attack', /pra:n/ 'breath', /prem/ 'love', etc.
 /br:/ /bra:hmṇ/ 'first of the four castes', /brāhma:nd/ 'universe'.
 /bhr:/ /bhra:nti/ 'illusion', /bhrēśt/ 'fallen' or 'corrupt', /bhru:n/ 'embryo'.
 [l] occurs only after unaspirated velar and labial stops, e.g.
 /kleś/ 'trouble', /glāni/ 'humiliation', /plā:vḍn/ 'deluge'.

(b) *Nasal + rolled, laterel or fricative :*

12. Of the nasals, [m] occurs before [r, l] and [m, n] before [y] ; e.g. [mtiyðman] 'dead-like' ; [mla:n] 'withered' ; [nyar:y] 'justice' ; [mya:ũ:] 'cat's cry'.

(c) *Fricative + rolled or lateral :*

13. All voiceless fricatives except [x] occur before [r]. Of the voiced fricatives only [v], [h] occur :

[sr]: [srot] 'stream', [srðsta:] 'creator'.

[šr]: [šreni:] 'class', [šrðm] 'labour', [šrešh] 'best'.

[fr]: [frā:s] 'France'.

[hr]: [hra:s] 'decline', [hrðsv] 'short'.

[vr]: [vrðt] 'vow', [vrðn] 'wound'.

[l] occurs after [š], only ; e. g. [šlok] 'Sanskrit verse', [šla:gha:] 'praise'.

(d) *Fricative + stop, nasal or fricative :*

14. Of the fricatives, only [s] occurs before stops, only [s, š, v] before nasals and [v], and only [s, š, v] before [y]. Thus—

(i) Voiceless dental fricative [s] occurs only before voiceless, both aspirated and unaspirated, velar, dental and bilabial stops. In words of English origin, it, however, occurs before [t].

[sk]: [skəndh] 'section of a book', or 'tree-trunk', [skənd] 'name of Lord Siva's son', [sku:l] 'school'.

[skh]: [skhəlit] 'fallen'.

[st]: [stən] 'breast', [stuti] 'praise', [stətr] 'standard'.

[sth]: [sthul] 'fat', 'gross', [sthān] 'place', [stḥiti] 'state'.

[sp]: [spōrs] 'touch', [spəšt] 'clear'.

[sph]: [sphətik] 'a kind of transparent stone', [sphu:rti] 'vigour or promptness'.

[st]: [stəšən] 'station', [sti:mətr] 'steamer'.

(ii) Both [n, m] form clusters with initial [s], but only [m] with [š] ; e. g.

[sn]: [sne:h] 'affection', [sna:tðk] 'graduate', [sna:n] 'bath'.

[sm]: [smətrən] 'remembrance', [smit] 'smile'.

[šm]: [šməśa:n] 'crematory'.

(iii) Both [y, v] follow [s, š], but only [y] follows [v] ; e.g. [sy]: [sya:r] 'jackal', [sv]: [svətr] 'voice' ; [šy]: [šya:məḷ] 'of dark complexion' ; [šv]: [šva:s] 'breath' ; [vy]: [vyətrh] 'useless'.

(e) *Stop+fricative :*

15. Of the fricatives, only /y, v/ which are phonetically semi-vowels in C—V sequence follow an initial stop, the only exception being the conjunct [kʃ] where the Old Indo-Aryan retroflex [ʃ] has been replaced by the palatal [ʃ], e.g. /kʃəma:/ 'forgiveness'; /kʃəti/ 'damage'; /kʃi:n/ 'diminished', etc. These occur with the following restrictions :

(i) No aspirate, voiced or unvoiced, precedes /y/ or /v/, except that /kh/ may occur before /y/, and /dh/ before /y, v/ both; e.g. /khyati/ 'fame'; /dhyā:n/ 'attention'; /dhvəni/ 'sound'.

(ii) No retroflex stop occurs before /y, v/.

(iii) Of the velars, both voiceless and voiced unaspirated stops precede /y, v/, e.g. /kya:/ 'what'; /gyā:n/ 'knowledge'; /kva:ra:/ 'batchelor'; /gva:la:/ 'milk-man'; etc. but of the palatals, only the voiced unaspirated stop (i.e. /j/) precedes /y/ or /v/, e.g. /jyoti/ 'light'; /jva:la:/ 'flame'.

(iv) All dental stops except /th/ precede /y, v/ e.g. /tya:g/ 'sacrifice'; /dyuti/ 'light'; /dhyā:n/ 'attention'; /tvərit/ 'quickly'; /dva:ra:/ 'by means of'; /dhvəni/ 'sound'.

(v) No labial stop, voiced or unvoiced, precedes /v/, but may precede /y/, e.g. /pya:r/ 'love'; /bya:h/ 'marriage'.

Medial Clusters :

16. Medial clusters are of two types :

1. Two-consonant clusters.
2. Three-consonant clusters.

Two-consonant Clusters :

17. The medial two-consonant clusters may be grouped as follows :

(a) *Stop plus stop :*

18. These occur with the following general restrictions :—

1. A voiced stop never precedes a voiceless stop of the same series.
2. No voiced stop except /d, b/ follows a voiceless stop.
3. No two aspirates of the same series or of different series occur in sequence.

4. In clusters with aspirates (a) voiceless aspirates follow voiceless non aspirates of the same or different series, while voiced aspirates follow voiced non-aspirates of the same or different series, (b) no voiced stop follows an aspirate, (c) all voiceless stops except /c, p/ may follow an aspirate.
5. A vocalic release intervenes between the clusters when the preceding vowel is long except in borrowed Sanskrit words which belong to a different system.

The other conditions are as follows :

- /k/ follows all voiceless and voiced stops except those of the same series and /j, d, dh/, e.g., /hicki:/ 'hiccup'; /khəṭka:/ 'apprehension'; /utkəṇṭha:/ 'intense desire'; /səḍka:/ 'gift'; /dhəḍhka:na:/ 'to kindle'; /jhəḍpki:/ 'wink'; /dubki:/ 'dip'; /bhəbhki:/ 'false threat', etc.
- /kh/ follows /k t, t/ only ; e.g., /məḱkhi:/ 'fly' , /ətkheli:/ 'frivolous movement' ; /utkhəṇṇ/ 'digging up', etc.
- /g/ follows /j, d/ only, e.g., /gəjga:/ 'ornament for elephant'; /udgəṁ/ 'origin', etc.
- /gh/ follows /g, d/ only ; e.g., /bəgghi:/ 'horse-cart' ; /udghaṭṭən/ 'inauguration', /upodgha:t/ 'introduction', etc.
- /c/ follows /k, g/ only ; e.g., /bukca:/ 'bundle of clothes'; /degca:/ 'vessel for cooking', etc.
- /ch/ occurs after /c/ only ; e.g., /əccha:/ 'good', etc.
- /j/ follows /b/ only, e.g. /kubja:/ 'hump-backed', etc.
- /jh/ occurs after /j/ only, e.g., /ujjhī/ 'abandoned'.
- /t/ follows /k, kh, g, gh, c, p, b/, e.g., /ḍa:kṭṭr/ 'doctor'; /cəḱḱa:/ 'frame' ; /prəḱṭa:na:/ 'to make known' ; /uḱṭa:/ 'one who indulges in unpleasant talk' ; /ucta:na:/ 'to sicken' ; /cipṭi:/ 'flat'; /ubṭṭən/ 'unguent', etc.
- /ṭh/ follows /ṭ/ only, e.g. /pəṭṭhe/ 'nerves', etc.
- /ḍ/ does not follow any stop.
- /dh/ occurs after /ḍ/ only, e.g. /buddha:/ 'old man'.
- /t/ follows all stops except /ph/, e.g. /śəḱti/ 'vigour'; /dukḱti:/ 'paining' ; /uḱta:/ 'rising' ; /sū:ḱta:/ 'smelling' ; /na:ṭti:/ 'dancing' ; /pəḱta:va:/ 'repentance' ; /gəṭṭi:/ 'roaring' ;

/səməjhta:/ 'understanding'; /lɔ̃t̪i:/ 'returning'; /ũt̪ti:/ 'rising'; /mū:ɖta:/ 'shaving'; /d̪hū:ɖhta:/ 'searching'; /gū:t̪ti:/ 'wreathing'; /kud̪ta:/ 'jumping'; /bā:ɖhta:/ 'binding, tying'; /kəpt̪a:n/ 'captain'; /phəb̪ti:/ 'joke'; /cub̪ti:/ 'piercing'.

(In most of these clusters /t/ occurs as forming a part of verbal affix).

/th/ occurs after /t/ only, e.g., /pətt̪hər/ 'stone'.

/d/ follows /k, g, j, b/; e.g., /nək̪di:/ 'cash'; /lug̪di:/ 'a kind of cake'; /səj̪da:/ 'bowing down'; /səta:b̪di:/ 'century', etc.

/dh/ follows /g, d, b/ only; e.g., /mug̪d̪ha:/ 'a young shy girl'; /budd̪hi/ 'intellect'; /ləb̪d̪hi/ 'acquisition', etc.

/p/ follows /k, c, j, t, t̪/ only, e.g., /ləɾək̪pan/ 'boyhood'; /bac̪pan/ 'childhood'; /ra:j̪put̪/ 'name of a tribe'; /cətp̪əti:/ 'spicy'; /ut̪p̪ənn/ 'born', etc.

/ph/ follows /t/ only, e.g., /ut̪ph̪ul/ 'blooming', etc.

/b/ follows /k, j, d/ only; e.g., /əkb̪ər/ 'famous Mughal emperor'; /məj̪bur/ 'forced', 'helpless'; /bud̪bud/ 'bubble', etc.

/bh/ follows /d/ only, e.g., /ədb̪hut/ 'strange', etc.

In all, the following clusters occur :

/kkh, kc, k̪t, kt, kd, kp, kb, k̪t̪, kht, ggh, gc, gt, gt, gd, gdh, ght, ght, ck, ech, ct, ct, cp, chk, cht, jg, j̪h, jt, jd, jp, jb, jhk, jht, t̪k, t̪kh, t̪th, tt, t̪p, t̪hk, t̪ht, d̪dh, dt, d̪ht, tk, t̪kh, t̪th, tp, t̪hk, t̪ht, dk, dg, dt, ddh, db, d̪bh, d̪ht, pk, pt, pt, phk, bk, bj, bt, bd, bdh, bhk, bht/

(b) Stop plus rolled lateral or flapped :

19. A rolled, lateral or flapped consonant may follow any stop except that (i) /r/ does not follow /ch, j̪h, d̪h/, (ii) /l/ does not follow /gh, d̪h, bh/, and (iii) /ɾ/ never follows any voiced aspirate and /d̪/. In all cases a release intervenes between the stop and the following consonant.

Examples :

(i) Stop plus rolled :

/kr̪:/ /bək̪ri:/ 'goat', /cək̪ra:na:/ 'to whirl'.

/khr̪:/ /bik̪hra:na:/ 'to scatter'.

/gr̪:/ /ghəg̪ri:/ 'women's under-garment'.

/ghr̪:/ /ghūgh̪ru:/ 'tiny ornamental bells', /ghūgh̪ra:le/ 'curly'.

/cr̪:/ /kəc̪ra:/ 'unripe melon', /khəc̪ra:/ 'cunning'.

- /jɾ:/ /gəjɾa:/ 'flower-wreath or an ornament', /bəjɾa:/ 'a kind of boat', /kəjɾa:ɾi:/ 'dark coloured'.
 /tɾ:/ /xəɾa:/ 'danger', /itɾa:na:/ 'to pride', /kəɾa:na:/ 'to avoid'.
 /tʰɾ:/ /pəɾtʰɾi:li:/ 'stony', /suthɾa:/ 'clean'.
 /dɾ:/ /pəɾdɾi:/ 'Christian priest'.
 /dʰɾ:/ /cəɾdʰɾi:/ 'head-man'.
 /tɾ:/ /pəɾtɾi:/ 'foot-path', /kəɾtɾa:/ 'a small market'.
 /tʰɾ:/ /koɾtʰɾi:/ 'small room', /gəɾtʰɾi:/ 'bundle'.
 /dɾ:/ /məɾdɾa:na:/ 'to move around'.
 /pɾ:/ /kəɾpɾəɾl/ 'thatched hut', /cəɾpɾa:si:/ 'peon'.
 /pʰɾ:/ /əɾpʰɾa:/ 'distension'.
 /bɾ:/ /gəɾbɾa:na:/ 'to feel un-easy'.
 /bʰɾ:/ /əɾbʰɾək/ 'mica'.

(ii) *Stop plus lateral :*

- /kl:/ /təkli:/ 'spindle', /cəkla:/ 'round wooden piece' (for flattening out Chapaties).
 /kʰl:/ /ukʰli:/ 'mortar'.
 /gl:/ /ūgli:/ 'finger', /pəɾgli:/ 'mad woman'.
 /cl:/ /məɾcla:/ 'pretender', 'obstinately desirous'.
 /chl:/ /məɾchli:/ 'fish'.
 /jl:/ /bijli:/ 'lightning', /kʰujli:/ 'itch'.
 /jhl:/ /məɾjhli:/ 'middle', /jhūjhla:ʰəɾt/ 'annoyance'.
 /tʰl:/ /po:ɾtʰli:/ 'bundle'.
 /tʰhl:/ /gəɾtʰhl:/ 'stone'.
 /dl:/ /la:ɾdli:/ 'beloved, darling'.
 /tl:/ /pəɾtla:/ 'thin'.
 /tʰhl:/ /uthla:/ 'shallow'.
 /dl:/ /bəɾdla:/ 'vengeance', /gəɾdla:/ 'unclean'.
 /dhl:/ /dhūdhla:/ 'dim', /dhā:dhli:/ 'high-handedness'.
 /pl:/ /upla:/ 'dung-ball', /gəɾpʰla:/ 'confusion'.
 /pʰhl:/ /dəɾpʰhl:/ 'small drum'.
 /bl:/ /dubla:/ 'weak'.

(iii) *Stop plus flapped :*

- /kɾ:/ /chəkɾa:/ 'cart', /məkɾi:/ 'spider'.
 /kʰɾ:/ /mukʰɾa:/ 'face'.
 /gɾ:/ /jhəɾgɾa:/ 'quarrel', /təɾgɾa:/ 'strong'.
 /cɾ:/ /kʰicɾi:/ 'a mixed rice-plus dish'.

- /chr̥/: /bāchr̥a:/'calf'.
 /jr̥/: /hijr̥a:/'impotent'.
 /tr̥/: /pētr̥i:/'a small wooden board'.
 /th̥r̥/: /gōth̥r̥i:/'bundle'.
 /t̥r̥/: /potr̥a:/'a small piece of cloth used for child's bedding'.
 /th̥r̥/: /cith̥r̥a:/'rag', /lith̥r̥a:/'besmeared'.
 /dr̥/: /gud̥r̥i:/'garment made up of patches', /pid̥r̥i:/'kind of small sparrow'.
 /p̥r̥/: /pāp̥r̥i:/'a thin dry layer', /kāp̥r̥a:/'cloth'.
 /ph̥r̥/: /p̥h̥eph̥r̥a:/'lung'.
 /br̥/: /kub̥r̥a:/'hump-backed', /rōb̥r̥i:/'a milk-dish'.

(c) *Stop plus fricative* :

20. A voiceless fricative follows a voiceless stop and a voiced fricative follows a voiced stop excepting a few cases where the dental or the palatal unvoiced fricative follows /d/, and a vocalic release intervenes between the two ; e.g., /vōkfa:/'interval' ; /nuksa:n/'loss' ; /nāksa:/'map' ; /utsa:h/'enthusiasm' ; /kōbza:/'occupation', but /ha:ds̥a:/'accident' ; /ba:ds̥a:h/'king'.

/y, v/ which are phonetically semi-vowels may, however, follow both voiceless and voiced stops ; e.g. /hōtya:/'murder' ; /vidya:/'knowledge' ; /vikhya:t/'renowned' ; /vigya:n/'science' ; /sōtvōt/'quickly' ; /ōdvait/'non-dual'.

(d) *Fricative plus stop* :

21. A voiceless fricative is followed by a voiceless stop, and a voiced fricative is followed by a voiced stop. The only exception is /sb/. The glottal spirant /h/ is voiceless or voiced according to its context, i.e. it is voiceless before voiceless stops and voiced before voiced stops.

The following clusters occur:

/sk, skh, st, sth, sp, sph, sb, śk, śc, śt, śt̥b, śt̥, śp, śph, xt, ft, zd, zb, hk, hg, ht, hd, hc/.

Examples:

- /sk/: /cōska:/'addiction'.
 /skh/: /khōskhas/'poppy grains'.
 /st/: /bōsta:/'satchel'.
 /sth/: /ōvōstha:/'condition'.
 /sp/: /ispa:t/'steel', /bōnōspōti/'vegetable'.
 /sph/: /visphōt/'explosion'.

- /sb/: /kəsbə:/ 'town'.
 /śk/: /muśkil/ 'difficult', /ləśkər/ 'army'.
 /śc/: /niścit/ 'decided', /pəścāt/ 'after'.
 /št/: /drišt/ 'sight', /śištā:car/ 'courtesy'.
 /sth/: /niśtha:/ 'faith'.
 /sr/: /iśtihar/ 'advertisement', /riśta:/ 'relation'.
 /sp/: /niśpətti/ 'accomplishment'.
 /sph/: /niśphəl/ 'useless'.
 /xt/: /səxti:/ 'strictness'.
 /ft/: /dəftər/ 'office'.
 /zd/: /məzdūr/ 'labourer', /buzdīl/ 'coward'.
 /zb/: /məzbūt/ 'strong'.
 /hk/: /bāhka:nə/ 'to deceive'.
 /hg/: /māhga:/ 'dear'.
 /hc/: /pāhca:n/ 'acquaintance'.
 /ht/: /kəhta:/ 'says'.
 /hd/: /māhdi:/ 'name of a plant used for colouring hands and feet'.

(e) *Fricative plus lateral, rolled or flapped :*

22. Clusters occur with both voiceless and voiced fricatives; but the flapped /ɾ/ follows /v/ only.

The following clusters occur :

/sr, sl, zr, śr, śl, fr, vr, vl, hr, hl, vɾ/

Examples :

/susra:l/ 'father-in-law's house'; /təsla:/ 'vessel for cooking';
 /həzrət/ 'holy person'; /visəra:m/ 'rest'; /viślēśən/ 'analysis'; /nəfrət/
 'hatred'; /ti:vṛta:/ 'quickness'; /ba:vla:/ 'mad'; /gəhra:/ 'deep'; /pəhla:/
 'first'; /ba:vri:/ 'a kind of well'.

(f) *Lateral, rolled or flapped plus stop :*

23. (a) All unaspirated voiceless and voiced stops except /j/ follow /l/; of the aspirates only /jh, th/ occur.

Examples :

/ulka:/ 'comet'; /śəlgəm/ 'turnip'; /la:lci:/ 'greedy'; /uljhən/
 'problem'; /ulṭa:/ 'contrary'; /dā:lda:/ 'name of a vegetable ghee';
 /gəlti:/ 'fault'; /pəlthi:/ 'cross-legged'; /jəldi:/ 'haste'; /śilpi:/ 'technician';
 /bulbula:/ 'bubble'.

(b) All stops except the retroflex /ʈ, ɖ/ and the bilabial /ph/ follow /r/. The retroflex /ʈ, ɖ/ appear only in loan words from English.

Examples :

/sirka:/ 'vinegar'; /cārkhā:/ 'spinning wheel'; /sārgām/ 'a group of seven 'swaras' in Indian music'; /mārghāt/ 'cremation ground'; /cārca:/ 'mention'; /dārjān/ 'dozen'; /murjha:nə:/ 'to whither'; /bārtān/ 'utensils'; /sāmārthan/ 'support'; /sārdi:/ 'cold'; /govārdhān/ 'name of a hill in Brindaban'; /pārti:/ 'party'; /bordīNg/ 'boarding house'; /sārpāt/ 'very fast', gallop; /sārbāt/ 'syrup'; /gārbhīni/ 'pregnant'.

(c) Only voiceless stops follow /r/. The following clusters occur :

/rk, rkh, rch, rt/

Examples :

/khirki:/ 'window'; /kārkhā:/ 'a battle song'; /pārchāttī:/ 'a projection in the middle of the wall in Indian house used as store'; /hārtā:/ 'strike', etc.

(g) *Lateral, rolled or flapped plus fricative :*

24. (a) All fricatives, voiceless and voiced, follow the lateral or rolled, except that /s/ seldom follows the lateral, e.g. /gulśān/ 'a name'; originally a Persian word meaning 'garden'.

(b) Only the dento-labial voiced fricative follows the flapped. Thus the following clusters occur :

/ls, lz, ly, lf, lv, l-h, rs, rz, rś, ry, rf, rv, rh, rv/

Examples :

/tulsi:/ 'basil'; /mulzām/ 'accused'; /dvāmulyān/ 'devaluation'; /kulfi:/ 'a kind of ice-cream'; /silvāt/ 'crease'; /dul-hān/ 'bride'; /kursi:/ 'chair'; /kārza:/ 'debt'; /va:rśik/ 'annual'; /pārya:pt/ 'sufficient'; /bārfi:/ 'a kind of sweet meet'; /pārvāt/ 'mountain'; /gārhit/ 'despised'; /kārvi:/ 'bitter', etc.

(h) *Lateral plus flapped or rolled :*

25. In all cases a vocalic release intervenes between the cluster; e.g. /palra:/ 'scale of a balance'; /dulra:nə:/ 'to fondle'.

(i) *Rolled plus lateral :*

26. Only a few examples are found, e.g. /parla:/ 'of the other side'; /birla:/ 'rare'.

(j) *Fricative plus fricative* :

27. Only the following clusters occur, most of which are found in borrowings from Persian and Sanskrit :

/hs, hś, hf, hy, hv, sy, sv, śy, śv, sx/

Examples :—

/mæhsu:l/ 'tax' ; /væhśi:/ 'un-cultured' ; /mæhfil/ 'assembly' ;
/gra:hyəta:/ 'acceptability' ; /a:hva:n/ 'the act of calling upon' ;
/təpəsyə:/ 'penance' ; /təpəsvi:/ 'ascetic' ; /a:vəśyək/ 'important' ;
/i:śvət/ 'God' ; /nusxa:/ 'prescription'.

(k) *Clusters with nasals* :

28. Nasals may form clusters with all types of consonants. Thus clusters occur of (i) nasal plus stop, (ii) stop plus nasal, (iii) nasal plus nasal, (iv) nasal plus fricative, (v) fricative plus nasal, (vi) nasal plus lateral, rolled or flapped, and (vii) lateral, rolled or flapped plus nasal.

(i) *Nasal plus stop* :

All nasals appear before stops :

/n/ occurs before /k, kh, g, c, j, t, th, d, dh, t, th, d, dh, p, ph, b/

/ŋ/ occurs before /t, th, d, dh/

/m/ occurs before /k, g, c, jh, t, t, d, p, b, bh/

/N/ occurs as [ñ] before /k, kh, g, gh/, and as [ɲ] before /c, ch, j, jh/.

Examples :

/n/ [n], [ɳ]:

/nk/: /səŋki:/ 'whimsical'.

/nkh/: /kəŋkhi:/ 'eye's corner'.

/ng/: /rəva:ŋgi:/ 'departure', /cinga:ri:/ 'spark'.

/nc/: /xəza:nci:/ 'treasurer', /unca:s/ 'forty-nine'.

/nj/: /bhai:nja:/ 'sister's son'.

/nt/: /ghənta:/ 'hour'.

/nθ/: /dəntθəl/ 'stalk'.

/nd/: /dənda:/ 'stick'.

/ndh/: /təhəndha:/ 'cold'.

/nt/: /sənta:n/ 'progeny'.

/hth/: /pənthi:/ 'way-farer'.

/nd/: /bəndər/ 'monkey'.

/ndh/: /kəndha:/ 'shoulder'.

/np/: /ənpər/ 'illiterate'.

/nb/ /ənbən/ 'unfriendliness'.

/n/ [n]:

- /nt/: /kəntək/ 'thorn'.
 /ntʰ/: /kuntʰit/ 'blunt'.
 /nd/: /kəndit/ 'broken'.

/m/ [m]:

- /mk/: /cəmkila/ 'bright'.
 /mg/: /təmgə/ 'medal'.
 /mc/: /cəmcə/ 'spoon'.
 /mjh/: /səmjha:nə/ 'to make one understand'.
 /mt/: /cimta/ 'pair of tongs'.
 /mtʰ/: /təmta/ 'wandering'.
 /md/: /nəmdə/ 'rug'.
 /mp/: /səmpa:dək/ 'editor'.
 /mb/: /ləmbə/ 'long'.
 /mbh/: /səmbbhəv/ 'possible'.

/N/ [ɳ]:

- /Nk/: /səNka/ 'doubt, apprehension'.
 /Nkh/: /pəNkha/ 'fan'.
 /Ng/: /dəNga/ 'riot'.
 /Ngh/: /kəNghi/ 'comb'.

[ɳ̌]:

- /Nc/: /cəNcəl/ 'naughty'.
 /Nch/: /pəNchi/ 'bird'.
 /Nj/: /gəNja/ 'bald'.
 /Njh/: /jhəNjha/ 'tempest'.

(ii) *Stop plus nasal* :

- (a) The alveolar nasal may follow any stop except /ph/. In all cases, a vocalic release intervenes between the stop and the nasal. A few examples will suffice:

/rukna:/ 'to stop'; /cəkhna:/ 'to taste'; /ugna:/ 'to rise';
 /sū:ghna:/ 'to smell'; /kitna:/ 'how much'; /əpna:/ 'own', etc.

- (b) /m/ follows both voiced and voiceless stops but rarely an aspirate and a stop of the same series, e.g. /cəkmə:/ 'deceit'; /təgma:/ 'medal'; /əjmer/ 'name of a town';
 /ləchmən/ 'a name'; /kətməl/ 'bug'; /kudməl/ 'bud';
 /atma:/ 'soul'; /sədina:/ 'shock', etc.

(iii) *Nasal plus nasal :*

- (a) /n/ and /m/ both appear as long consonants and before each other, e.g., /gənnə:/ [gənnə:] 'sugar-cane'; /əmma:/ [əmmə:] 'mother'; /unma:d/ 'madness'; /sa:mnə/ 'in front', etc.
- (b) /n/ does not occur as a geminated or long consonant. It never occurs before /m, n/, nor does it follow them.

(iv) *Nasal plus fricative :*

All nasals except /ŋ/ may precede a fricative. The distribution of nasals is as follows :

- /n/: /insə:n/ 'human being', /mənzil/ 'destination', /mənsə:/ 'desire', /ma:nyəta:/ 'acceptability', /sunvar:/ 'hearing'.
- /N/: /səNsar/ 'world', /məNzil/ 'destination', /səNśəy/ 'doubt', /səNyəmə/ 'restraint', /səNva:d/ 'dialogue'.
- /m/: /ghəmsə:n/ 'terrible' (fight), /rəməzə:n/ 'name of a month in Muslim Calendar', /śəməser/ 'a name'; originally a Persian word meaning 'sword', /gra:myəta:/ 'vulgarity'.

The alveolar nasal /n/ before /z/ alternates with /N/. While the fricative /y/ following the alveolar or bilabial nasal is phonetically a semi-vowel, /N/ before fricatives takes upon itself the prosodic colouring according to its context.

(v) *Fricative plus nasal :*

The nasals, /n, m/ follow both voiceless and voiced fricatives ; /n/ does not follow any fricative except /ś/.

The following clusters occur :

/sn, śn, fn, xn, hn, sm, śm, xm, zm, hm, vm, śn/

Examples :

/ka:śni:/ 'kind of plant'; /ca:śni:/ 'sugar-syrup' /dəfnə:nə:/ 'to bury'; /təðxna:/ 'ankle'; /gəhna:/ 'ornament'; /vismit/ 'surprised'; /duśməṇ/ 'enemy'; /zəxmi:/ 'wounded'; /həzma:/ 'digestive system'; /bra:hməṇ/ 'first among the four castes in Hindus' /nəvmi:/ 'the ninth day of each fortnight in lunar month', /vaiśṇəv/ 'a devotee of God Vishnu'.

(vi) *Nasal plus lateral, rolled or flapped :*

Only the following clusters occur :

/ml, mr, mṛ, Nl, Nr/.

Examples :

/gamlā:/ 'flower-pot'; /kamra:/ 'room'; /cāmra:/ 'leather'; /səNlā:p/ 'conversation'; /səNṛkśəṇ/ 'protection', etc.

While /N/ before the lateral or the rolled takes upon the prosodic colouring, a vocalic release intervenes in clusters with /m/.

(vi) Lateral, rolled or flapped plus nasal :

/n/ follows /l, r, ṛ/, but /m/ follows /l, ṛ/, and /ṇ/ follows /r/ only. Thus the following clusters occur :

/ln, rn, ṛn, lm, tm, rn/

Examples :

/jəlna:/ 'to burn'; /mərna:/ 'to die'; /səṛna:/ 'to rot'; /cilmən/ 'window-screen'; /gərmī:/ 'heat'; /vəṛṇən/ 'description'.

Three-consonant Clusters :

29. Three-consonant clusters are few, and generally consist of /r/ as final member. /r/ follows stop plus stop, nasal plus stop, fricative plus fricative.

The following clusters occur :

/tkr, tpr, cchr, ddhr, dbhr, Nkr, ntr, ndr, Nśr, Nśl, mbhr, skr, cchv/.

Examples :

/utkriśt/ 'best, excellent'; /utprekśa:/ 'fancy'; /ucchrīNkhōl/ 'unbound'; /uddbrī/ 'quoted'; /udbhra:nt/ 'mad'; /səNkra:nti/ 'transition'; /māntri:/ 'minister'; /pəṇḍrəḥ/ 'fifteen'; /səNśrit/ 'dependent'; /səNśliśt/ 'synthetic'; /səmbhra:nt/ 'respectable'; /mḍsxra:/ 'joker'; /ucchva:s/ 'sigh'.

Final Clusters :

30. Final clusters are few in number as they occur in loan words from Sanskrit, Persian and English, and rarely otherwise. A tentative list of final clusters is given below :

1. Homorganic nasals plus stops except Njb, Nḍh; and /nv, Ns, Nś, mr, ml/.

Examples :

/rəNk/ 'poor'; /rəNg/ 'colour'; /śəNkh/ 'conch-shell'; /səNgh/ 'union'; /məNc/ 'stage'; /kuNj/ 'bower'; /uNch/ 'practice of picking stray grains of wheat, etc. after the harvesting operations are over'; /cəṇt/ 'clever, rogue'; /kəṇṭh/ 'throat'; /dḍəṇḍ/ 'punishment'; /sənt/ 'saint'; /bəṇḍ/

'closed'; /pānth/ 'path'; /gāndh/ 'smell'; /pāmp/ 'pump'; /āvāḷamb/ 'support'; /gumph/ 'weaving'; /a:rāmbh/ 'beginning'; /kānv/ 'name of an ancient ascetic'; /hāNs/ 'swan'; /vāNs/ 'family'; /nāmr/ 'humble'; /ām/ 'sour'.

2. Clusters with nasal as final member : /km/, /gn/, /gm/, /ghn/, /tm/, /tn/, /pn/, /dm/, /kām/, /kāṇ/, /śm/, /śn/, /rm/, /rn/, /fn/, /lm/.

Examples :

/hukm/ 'order'; /rugn/ 'diseased'; /yugm/ 'pain'; /kritāghn/ 'ungrateful'; /ādhyātm/ 'spirituality'; /yātn/ 'effort'; /svāpn/ 'dream'; /pādm/ 'lotus'; /sukām/ 'minute'; /tikāṇ/ 'sharp'; /grīśm/ 'hot weather'; /uśn/ 'hot'; /ghārm/ 'hot'; /vārṇ/ 'colour or caste'; /dāfn/ 'laid down in grave'; /gulm/ 'bush, regiment'.

3. Clusters with /r/ as first member : /rk, rg, rgh, rc, rj, rt, rth, rd, rdh, rp, rbh, rf, rv, rz, rś, ry, rty, rdhv, rtsy, rny, (for clusters /rn/, /rm/ see 2 above).

Examples :

/tārkh/ 'logic'; /vārg/ 'class'; /ārgh/ offering of water to guests'; /khārc/ 'expenditure'; /dārj/ '(to make) entry'; /śārt/ 'condition'; /ārth/ 'meaning'; /sārd/ 'cold'; /ārdh/ 'half'; /dārp/ 'pride'; /gārbh/ 'embryo'; /bārf/ 'ice'; /pūrv/ 'before, east'; /kārz/ 'debt'; /vārs/ 'year'; /aścāry/ 'wonder'; /mārty/ 'mortal (man)'; /ūrdhv/ 'above'; /vārtsy/ 'alveolar'; /vārny/ 'under description'.

4. Clusters with /r/ as second member : /kr, gr, tr, dr, jr, chr, bhr, sr, śr, vr/; (for /mr/, see 1 above).

Examples :

/cākr/ 'circle'; /ugr/ 'violent'; /pātr/ 'letter'; /sāmudr/ 'sea'; /vājir/ 'thunder-bolt'; /kricchr/ 'difficult'; /śubhr/ 'white'; /sāhāsr/ 'thousand'; /mīśr/ 'mixed'.

5. Clusters with /l/ as first member : /lk, ld, lp, lbh, lph, ly/; (for /lm/ see 2 above).

Examples :

/śulk/ 'fee'; /jāld/ 'quickly'; /śilp/ 'art'; /prāgālbh/ 'bold'; /gulph/ 'knee-cap'; /mudly/ 'price'.

Only one cluster with /l/ as second member is found : /kl/, e.g., /śukl/ 'white'.

6. Stop clusters : /kt, pt, bt, bd, bdh, gdh, ddh/.

Examples :

/rākt/ 'blood'; /lupt/ 'eclipsed'; /zəbt/ 'proscribed'; /śābd/ 'word';
/lābdh/ 'acquired'; /mugdh/ 'enamoured'; /yuddh/ 'battle'.

7. Stop plus fricative and fricative plus stop clusters :

/ks, kś, kśy, ky, kv, khś, khy, gy, cy, jy, ty, t̥hy, d̥y, ty, tv, thy, dy, dhy, py, bhy, ts, bz, xt, ft, śt, st, śt̥, śt̥h, śk/.

Examples :

/nuks/ 'defect'; /d̥d̥kś/ 'deft'; /lāksy/ 'target'; /va:ky/ 'sentence';
/p̥dkv/ 'ripe'; /b̥dkhś/ 'forgive'; /s̥dkhy/ 'friendship'; /yogy/ 'able'; /va:cy/ 'literal';
/ra:jy/ 'kingdom, state'; /̥ka:ty/ 'irrefutable'; /pa:thy/ 'readable' text;
/ja:d̥y/ 'foolishness'; /s̥d̥ty/ 'truth'; /m̥dh̥tv/ 'importance'; /p̥d̥thy/ 'food suitable for health';
/g̥d̥y/ 'prose'; /sa:d̥hy/ 'object'; /pra:py/ 'due'; /s̥dbhy/ 'civilized'; /vats/ 'youngster'; /n̥dbz/ 'pulse'; /s̥d̥xt/ 'hard'; /muft/ 'free';
/ba:liś/ 'span'; /cust/ 'smart'; /n̥d̥śt̥/ 'destroyed'; /kuśt̥h/ 'leprosy'; /śuśk/ 'dry'.

Nasalisation :

31. All vowels, short and long, may occur as nasalised ; e.g.
/̃gu:ṭha:/ 'thumb'; /̃sica:i:/ 'irrigation'; /̃ugli:/ 'finger'; /̃ā:g̃an/ 'compound'; /̃i:t̃/ 'brick'; /̃ū:t̃/ 'camel'; /g̃ēd/ 'ball'; /t̃ōd/ 'pot-belly'; /m̃ā:/ 'I';
/c̃ōkna:/ 'to be startled'.

Nasalisation leads to differentiation in meaning in the following pairs :

/ba:s/ 'smell'	/b̃ās/ 'bamboo'
/d̃ari:/ 'nurse'	/d̃a:ñ/ 'right'
/god/ 'lap'	/g̃ōd/ 'gum'
/m̃dre/ Pot. III, sing. (√m̃dr 'to die')	/m̃dr̃ē/ Pot. III, pl. (√m̃dr 'to die')
/h̃æ/ 'is'	/h̃ā:/ 'are'

Stress :

32. Stress is not so prominent in Hindi as in English. However, it is sometimes phonemic, and such pairs as /g̃ā'la:/ 'throat' and /g̃ālā:/ 'melt' (Imp. II. sing.); /gh̃ā't̃a:/ 'thick cloud' and /gh̃ā't̃ā:/ 'decrease' (Imp. II. sing.) are distinguished only by means of stress.

Word-juncture :

33. Word-juncture is phonetically characterised by a slight pause and allophonic features of the segments that precede and follow ; e.g. /m̃dñ ka:/ 'of the mind', /m̃dñka:/ 'bead', etc.

PANJABI PHONEMES

34. The term 'Panjabi' in this treatment signifies the literary variety of the speech spoken in the Central Panjab of the pre-partition days. It is the standard idiom all over the Panjabi area of the present day Panjab. It has had for its vocabulary a large number of foreign words of Perso-Arabic origin in the past, but its indigenous stock made up of pure *tad-bhavas* is now being reinforced with Sanskrit loans.

35. Panjabi has the following phonemes :—

(a) Segmental

Vowels :

Class I	/i ə u/
Class II	/i: e æ a: ɔ o u:/
Class III	/ai au/

The vowels of the Class I are phonetically short and those of the Class II are phonetically long. The Class III consists of pure diphthongs.

Consonants :

(i) STOPS

	<i>Bilabial</i>	<i>Dental</i>	<i>Retroflex</i>	<i>Palatal</i>	<i>Velar</i>
Vls.	/p ph/	/t th/	/ʈ ʈh/	/c ch/	/k kh/
Vd.	/b —/	/d —/	/ɖ —/	/j —/	/g —/

The second in each of the pairs of voiceless stops is aspirate. The voiced stops have no aspirate variety. The palatals are phonetically affricates. However, phonemically, they pattern as stops.

(ii) CONTINUANTS

	<i>Labial</i>	<i>Dental</i>	<i>Alveolar</i>	<i>Retroflex</i>	<i>Palatal</i>	<i>Velar</i>	<i>Glottal</i>
<i>Nasals</i>	m		n	ɳ			
<i>Fricatives</i>							
Vls.	f	s			ʃ	x	
Vd.	v	z			y		h
<i>Lateral</i>			l				
<i>Rolled</i>			r				
<i>Flapped</i>				ɽ			

Besides the nasal phonemes /m, n, ŋ/ classed above, there is the nasal phoneme /N/, the distinctive feature of which is the nasality only which goes by the quality of the occlusive or the constrictive that follows, and therefore takes the prosodic colouring according to its context. /y, v/ may be classed as semi-vowels.

(b) Supra-segmental

Nasalisation : /~/

Consonant Length : /:/²

Stress : /' / (not marked except when phonemic)

Word-juncture : indicated by space.

Tones—Level tone: average middle pitch, not represented by any sign.

High tone : represented by the sign /' / placed over the vowel.

Low tone : represented by the sign /' / placed before the vowel.

Distribution of Vowel Phonemes :

36. All the vowels, except those of the Class III, are simple vowels, and they show contrasts in tongue position (front, central and back), tongue height (close, half-close, half-open, open) and rounding (back vowels are rounded, others are unrounded).

37. All the simple vowels occur initially, medially and finally except that /ə/ occurs rarely before word-junctures, and /i, u/ do not occur finally.³

Examples :

/ə/ [ʌ] (occurs in stressed syllables only) : /əjj/ 'today' ; /səjjə/ 'right' ; /pəta/ 'information, knowledge'.

[ə] (occurs in unstressed syllables only) : /bəzər/ 'shop-market'.

/a:/ /a:dm:/ 'man' ; /ka:la/ 'black' ; /ra:j/ 'rule'.

/i:/ /is/ 'this' ; /vicar/ 'thought'.

/i:/ /i:sa/ 'Christ' ; /pi:li/ 'yellow'.

/u:/ /ullu/ 'owl' ; /bura/ 'bad' ; /mutth/ 'fist'.

/u:/ /ū:th/ 'camel' ; /kurā/ 'dust-heap' ; /laddu/ 'sweet-ball'.

/e/ [e] : /è/ 'this' ; /tel/ 'oil' ; /pa:sse/ 'towards'.

[ə] (occurs before long vowels in final position) : /gea/ 'went' ; /lea/ 'took' ; /deo/ 'give', etc.

/æ:/ /æ:/ 'this' ; /ætki/ 'this time' ; /pæsa/ 'pice' ; /hæ/ 'is'.

/o:/ /ò/ 'that' ; /kol/ 'near' ; /callo/ 'go' ; (Imperative II. Pl.).

/ɔ:/ /ɔ:la/ 'myrobalan' ; /kɔn/ 'who' ; /sɔ/ 'hundred'.

2. For the sake of convenience consonant length is indicated by double consonant symbols.

3. For mutual contrasts see Appendix.

38. The vowels of Class III are diphthongs which occur only medially before long vowels, e.g. /paue/ 'wooden-sandals'; /kaiã:/ oblique form of /kã:/ 'some'.

Vowel Sequences :

39. Sequences of vowels generally consist of two vowels, but sequences of three vowels are also found. The following are the patterns of sequences.

Sequences of two vowels :

/VV:/: /ði:, ðe, ie, io/

Examples :

/lã:/ 'took'; /gðe/ 'went' (mas. pl.); /milie/ 'let us meet'; /kurio/ 'o girls'.

/V:V:/: /a:i:, a:e, a:o, i:a:, e:a, e:o, u:a:, u:i:, u:e, u:o, o:i:, o:e/

/na:i:/ 'barber'; /a:e/ 'came'; /kha:o/ 'please eat'; /t'i:ã:/ 'daughters' /gea:/ 'went'; /deo/ 'give'; /ju:a:/ 'gambling'; /su:i:/ 'needle'; /ju:e/ 'gambling' (oblique form of ju:a:); /chu:o/ 'touch' (Imp. II. pl.); /roi:/ 'wept'; /toe/ 'pits'.

Sequences of three vowels :

/V:VV:/ a:ia:, a:ie, o:ie, ðie/: e.g., /pa:ia:/ 'quarter seer' /kha:ie/ 'let us eat'; /ro:ie/ 'let us weep'; /sðie/ 'let us sleep'.

40. Sequences of two vowels, generally short before a final long vowel, tend to become diphthongs and hence mono-syllabic in some cases; e.g. /kaiã:/ 'some' (oblique pl. of /kã:/), /paua:/ 'quarter bottle', etc.

41. In rapid speech, sequences of two vowels alone, also, appear to become diphthongal nuclei, e.g. /ð gðe sðn/ 'they had gone' Here vowels in sequence /ðe/ tend to become diphthong [ʌɛ].

Distribution of Consonant Phonemes :

42. All consonants occur initially, medially and finally, except that /ŋ/, and /r/ do not occur initially, /N/ occurs only medially, and /h/ does not occur finally.

Examples :

/p/ [p] /petti:/ 'belt'; /pa:p/ 'sin'; /kuppi:/ 'small can'.

/ph/ [ph] /phəl/ 'fruit'; /phupphəɾ/ 'husband of father's sister'; /dəph/ 'kind of drum'.

/b/ [b] /bōcca:/ 'child'; /dəba:/ 'pressure'; /kubba:/ 'hump-backed'; /rəbb/ 'God'.

/t/	[t]	/tādd/ 'then'; /kutta:/ 'dog'; /pātlā:/ 'thin'; /pāta:/ 'knowledge or address'; /pātt/ 'leaves'.
/th/	[th]	/thorā:/ 'little'; /bāthera:/ 'much'; /pāttthār/ 'stone'; /hāttth/ 'hand'.
/d/	[d]	/dā:/ 'pulse'; /mādarī:/ 'juggler'; /bāld/ 'bull'.
/ṭ/	[ṭ]	/ṭāṭṭu:/ 'pony'; /choṭṭa:/ 'small'; /vāṭṭ/ 'ridge'.
/ṭh/	[ṭh]	/ṭhāṭṭa:/ 'police station'; /ikāṭṭhe/ 'together'; /sāṭṭh/ 'sixty'; /hāṭṭh/ 'obstinacy'.
/ḍ/	[ḍ]	/ḍāk/ 'post'; /buḍḍha:/ 'old man'; /uḍa:n/ 'flight'; /la:ḍ/ 'affection'.
/c/	[c]	/cāḱka:/ 'wheel'; /bācca:/ 'child'; /bāca:/ 'escape'; /soc/ 'true'.
/ch/	[ch]	/chāṭṭ/ 'roof'; /bicchu:/ 'scorpion'; /vāchera:/ 'colt'; /kācch/ 'arm-pit'.
/j/	[j]	/jād/ 'when'; /ra:ja:/ 'king'; /ka:j/ 'business'.
/k/	[k]	/ka:la:/ 'black'; /vāki:/ 'pleader'; /sa:k/ 'relationship'.
/kh/	[kh]	/khotta:/ 'ass'; /mākkhān/ 'butter'; /lekh/ 'writing'.
/g/	[g]	/gol/ 'round'; /pa:gāl/ 'mad'; /pāgri:/ 'turban'; /rāNg/ 'colour'; /ra:g/ 'music'.
/m/	[m]	/mā:/ 'mother'; /bimār/ 'sick'; /ḍra:m/ 'rest'.
/n/	[n]	/na:i:/ 'barber'; /hānera:/ 'darkness'; /inka:r/ 'refusal'; /insa:n/ 'human being'; /din/ 'day'.
	[n̄]	(occurs before dental stops only) : /ḍnt/ 'end'; /bānda:/ 'man'.
/ṇ/	[ṇ]	(does not occur initially but in all other positions): /ka:ṇa:/ 'one-eyed'; /kāṇḍa:/ 'thorn'; /nāṇa:n/ 'husband's sister'.
/Ṇ/	[Ṇ]	(occurs medially before velar stops) : /rāṆg/ 'colour'; /cāṆga:/ 'well'.
	[ṇ̄]	(occurs medially before palatal stops) /māṆja:/ 'bedstead'; /cuṆj/ 'beak'.
	[N]	(before /s, z, y, v/) : /bāNs/ 'goose'; /māNzil/ 'storey'; /sāNyog/ 'union'; /sāNvāt/ 'a year in Indian calendar'.
/f/	[f]	/fāsāl/ 'crop'; /nāfa:/ 'gain'; /sa:f/ 'clean'.
/v/	[v]	/vār/ 'day of a week'; /sāver/ 'morning'; /devta:/ 'god'; /nāv/ 'new'.
	[w]	/dva:ra:/ 'by means of'; /kva:ra:/ 'bachelor'.
/s/	[s]	/sa:l/ 'year'; /desi:/ 'indigenous'; /kursi:/ 'chair'; /dās/ 'ten'.

/z/	[z]	/zōru:ri:/ 'necessary'; /mōza:/ 'pleasure'; /gōz/ 'yard'.
/ś/	[ś]	/śōkkōr/ 'brown sugar'; /nōśa:/ 'intoxication'; /xuś/ 'happy'.
/y/	[y]	/ya:d/ 'remembrance'; /ya:r/ 'friend'.
	[i]	/pya:r/ 'love'; /nyā:/ 'justice'; /ra:y/ 'opinion'.
/l/	[l]	/lōk/ 'people'; /ka:la:/ 'black'; /va:l/ 'hair'.
/r/	[r]	/ra:ja:/ 'king'; /mu:rōkh/ 'foolish'; /ca:r/ 'four'.
/ɾ/	[ɾ]	(does not occur initially): /lōɾa:ri:/ 'fight'; /kuɾta:/ 'shirt'; /va:ɾ/ 'hedge'.
/x/	[x]	/xa:li:/ 'empty'; /dōxəl/ 'interference'; /ru:x/ 'inclination'.
/h/	[h]	/hōtth/ 'hand'; /ha:ɾ/ 'garland, defeat';
	[h]	/a:ho/ 'yes'.

Long Consonants :

43. Long consonants occur medially and finally. Medially, they occur between short vowels, or short and long vowels, or between long vowels, and finally they occur after a short vowel.

The following consonants occur with length :

/k, g, c, j, t, d, t, d, p, b, n, m, l, v, s/.

Examples :

/kk/	[k:]	/cōkka:/ 'wheel'; /nukkōr/ 'corner'; /ōkk/ 'kind of plant'.
/gg/	[g:]	/bōgga:/ 'white'; /la:gge/ 'near'; /vōgg/ 'herd'.
/cc/	[c:]	/bōcca:/ 'child'; /buccōr/ 'butcher'; /sōcc/ 'truth'.
/jj/	[j:]	/kōjjōl/ 'collyrium'; /va:jjā:/ 'musical instrument'; /lōjj/ 'rope for drawing water'.
/tt/	[t:]	/tōttu:/ 'pony'; /chuttōr/ 'deserted woman'; /chōtt/ 'bag for carrying loads on pony's back'.
/dd/	[d:]	/lōddu:/ 'sweet ball'; /vōdda:/ 'big'; /hōdd/ 'bone'.
/tt/	[t:]	/tōtta:/ 'hot'; /sōttōr/ 'seventy'; /sōtt/ 'seven'.
/dd/	[d:]	/kōddu:/ 'pumpkin'; /cōddōr/ 'bed-sheet'; /sā:dda:/ 'simple'; /kōdd/ 'size'.
/pp/	[p:]	/khōppōr/ 'skull', 'bowl'; /kuppi:/ 'a small can'; /a:ppa:/ 'self'; /sōpp/ 'serpent'.
/bb/	[b:]	/kubba:/ 'hump-backed'; /ubbōlna:/ 'to boil'; /cha:bba:/ 'scale of a balance'; /rōbb/ 'God'.
/nn/	[n:]	/gōnna:/ 'sugar-cane'; /cu:nna:/ 'lime'; /ōnn/ 'food'.
/mm/	[m:]	/cumma:/ 'kiss'; /tummōn/ 'clearing of cotton, wool etc.'; /cōmm/ 'skin'.

- /l/ [l:] /kəlla:/ 'alone'; /ki:li:/ 'peg'; /kill/ 'nail'.
 /vv/ [v:] /nəvve/ 'ninety'.
 /ss/ [s:] /rəssi:/ 'rope'; /ma:ssi:/ 'mother's sister'; /səss/ 'mother in-law'.

Consonant Clusters :

44. Clusters occur initially, medially and finally. Initial clusters are by far less frequent than medial and final ones.

Initial Clusters :

45. An initial cluster is made up of a consonant plus /r/, /l/, /y/ or /v/. Clusters with /r/ are common while those with /l/ are rare.

46. (a) All unaspirated stops except /c, j/, and all voiceless fricatives except /x/ occur before /r/; but only /s/ occurs before /l/, e.g., /krò:d/ 'anger'; /grā:/ 'village'; /t̪ræm/ 'tram'; /dra:ma:/ 'drama'; /trel/ 'dew'; /driṣṭa:nt/ 'illustration'; /pren:/ 'love'; /bræ'mənd/ 'universe'; /frā:s/ 'France'; /sra:p/ 'curse'; /śreni:/ 'class'; /slà:/ 'advice', etc.,

(b) /y, v/ may follow all unaspirated stops except that /y/ does not follow any of the retroflex and the palatal series and /v/ never follows /c, t̪, d̪, b/, e.g., /kya:ri:/ 'bed'; /gya:n/ 'knowledge'; /tya:g/ 'sacrifice'; /dya:l/ 'benevolent'; /pya:r/ 'love'; /bya:nna:/ 'advance'; /kva:ra:/ 'bachelor'; /gva:lla:/ 'milk-man'; /jva:r/ 'great millet'; /t'va:/ 'make wash'; /dva:ra:/ 'by means of'; /pva:ra:/ 'fuss', etc.

(c) /y, v/, both, may follow the dental voiceless fricative /s/, the lateral /l/, and the rolled /r/, but /y/ may also follow /v/; e.g., /sya:l/ 'winter'; /svà:/ 'ash'; /lya:/ 'bring'; /lva:/ 'cause to be applied'; /rya:yòt/ 'concession'; /rva:/ 'make weep'; /vya:h/ 'marriage', etc.

Medial Two-consonant Clusters :

47. The medial two-consonant clusters may be grouped as follows :

(a) Stop plus stop :

48. These occur with the following general restrictions :

1. A voiced stop never occurs before a stop of the same series.
2. No voiced stop except /d, b/ follows a voiceless stop.
3. Two aspirates of the same series or of different series do not occur in sequence. A voiceless non-aspirate of the same series always precedes a voiceless aspirate. Thus we have /mòkkhi:/ 'fly', not /mòkhhhi:/; /hòtthi:/ 'handle', not /hòththi:/, etc.

4. No stop follows an aspirate except that /d/ follows /kh, ch, th/, and /t/ follows /ch/, e.g. /likhda:/ 'writing'; /vichdi:/ 'being spread'; /bæthda:/ 'sitting'; /pəchta:va:/ 'repentance'.
5. A vocalic release intervenes in the cluster when a long vowel precedes it.

The other conditions are as follows :

/k/ follows all unaspirated voiceless and voiced stops except /g/, /d/, e.g. /mōckor:/ 'sprain'; /hūjka:/ 'jerk'; /mōtka:/ 'pot'; /gōtka:/ 'a sword-like stick'; /sōdka:/ 'blessing'; /tupka:/ 'drop'; /dōbka:/ 'threat'.

/kh/ occurs after /k/ only, e.g. /mākkhi:/ 'fly'.

/g/ follows /j/ only, e.g. /rojga:r/ 'employment'.

/c/ follows /k/ only, e.g. /bukca:/ 'bundle of clothes'.

/ch/ occurs after /c/ only, e.g. /vācchā:/ 'calf'.

/j/ follows /b/ only, e.g. /sōbji:/ 'vegetable'.

/t/ follows /k, g, p/, e.g. /dāktār/ 'doctor'; /prāgta:na:/ 'to express'; /kəpti:/ 'deceitful'.

/th/ follows /t/ only, e.g. /ikətt̪he/ 'together'.

/d/ does not follow any stop.

/t/ follows /k, g, ch, p/, e.g. /nukta:/ 'point'; /mōgta:/ 'beggar'; /pəchta:va:/ 'repentance'; /kəptā:n/ 'captain'.

/th/ follows /t/ only, e.g. /pətt̪hər/ 'stone'.

/d/ follows all voiceless and voiced, aspirated and unaspirated stops except /th, ph/; e.g. /nōkdi:/ 'cash'; /nugdi:/ 'kind of small cake'; /likhdi:/ 'writing'; /pā:tda:/ 'tearing'; /udda:/ 'flying'; /bæthda:/ 'sitting'; /təpda:/ 'being heated'; /sōbda:vli:/ 'vocabulary', etc. (most of the clusters with /d/ occur when it forms a part of verbal affix).

/p/ follows /c, j, t/ only, e.g. /bācpən/ 'childhood'; /ra:jput/ 'name of a tribe'; /utpənn/ 'born'.

/ph/ follows /p/ only, e.g. /kəpphən/ 'coffin'.

/b/ follows /k, j, t/ only, e.g. /əkbār/ 'famous Mughal emperor'; /mājbu:r/ 'forced, helpless'; /itba:r/ 'trust'.

In all the following clusters occur :

/kkh, kc, kt, kt, kd, kb, khd, gt, gt, gd, ck, cch, cd, cp, cht, chd, jk, jg, jd, jp, jb, tk, tth, td, thd, dd, tk, tth, td, tp, tb, dk, pk, pt, pt, pd, pph, bk, bj, bd/.

(b) *Stop plus lateral, rolled or flapped :*

49. A lateral, rolled or flapped consonant may follow any stop except that /l, ɾ/ do not follow /ph, d/ respectively. In all cases, a release intervenes between the stop and the following consonant.

The following are examples :

Stop plus lateral :

- /kɫ/: /cəɫkɫa:/ 'round wooden piece for flattening out chapaties.
- /khl/: /təɫkhlɑ:/ 'apprehension'.
- /gl/: /pəɫgli:/ 'mad woman'.
- /cl/: /viɫci:/ 'inner, middle'.
- /chl/: /piɫchi:/ 'past'.
- /jl/: /biɫji:/ 'lightning'.
- /tɫ/: /pəɫli:/ 'bundle'.
- /tɬl/: /guɫɬli:/ 'stone'.
- /dl/: /laɫɫli:/ 'darling, beloved'.
- /tl/: /pəɫtli:/ 'thin'.
- /thl/: /guɫthli:/ 'small bag or purse'.
- /dl/: /bəɫɫla:/ 'revenge'.
- /pl/: /təɫpla:/ 'mistake'.
- /bl/: /təɫbla:/ 'kind of drum'.

Stop plus rolled :

- /kr/: /cəɫkra:nɑ:/ 'to whirl'.
- /khr/: /nəɫkhra:/ 'proud gesture'.
- /gr/: /uɾɑ:nɑ:/ 'collecting of dues'.
- /cr/: /kɬəɫcra:/ 'cunning'.
- /chr/: /kəɫchræli:/ 'boil in the armpit'.
- /jr/: /gəɫjra:/ 'an ornament worn on the wrist', /ba:jra:/ 'millet'.
- /tr/: /pəɫtri:/ 'a flat wooden seat'.
- /thr/: /gəɫθri:/ 'bundle'.
- /ɖr/: /māɫɖra:nɑ:/ 'to hover, to move around'.
- /tr/: /kuɫtra:/ 'cutting into small pieces, tearing into bits';
/xəɫtra:/ 'danger'.
- /thr/: /kuɫθra:/ 'unclean'.
- /dr/: /paɫdri:/ 'priest'.
- /pr/: /upra:m/ 'indifference'.
- /ph/: /əɫphra:/ 'distension'.
- /br/: /kəɫəbra:/ 'uneasiness'.

Stop plus flapped :

- /kr̥/: /sukra:/ 'thin'.
 /khr̥/: /mukhra:/ 'face'.
 /gr̥/: /təgr̥a:/ 'strong'.
 /cr̥/: /khicri:/ 'a rice-pulse dish'.
 /chr̥/: /chichre/ 'pieces of rotten meat'.
 /j̥r̥/: /hijra:/ 'impotent'.
 /tr̥/: /pətr̥i:/ 'small wooden board'.
 /ṭhr̥/: /gəṭhr̥i:/ 'bundle'.
 /ṛ̥/: /potra:/ 'small piece of cloth used for child's bedding'.
 /ṭhr̥/: /loṭhra:/ 'small piece of flesh'.
 /ḍr̥/: /gidri:/ 'she-jackal'.
 /p̥r̥/: /khopri:/ 'skull'.
 /ph̥r̥/: /phephre/ 'lungs'.
 /b̥r̥/: /rəbri:/ 'a milk dish'.

(c) Stop plus Fricative :

50. A voiceless fricative follows a voiceless stop and a voiced fricative follows a voiced stop, e.g., /vəkf̥a:/ 'interval'; /nuksa:n/ 'loss'; /nəks̪a:/ 'map'; /uts̪a:/ 'enthusiasm'; /kəbza:/ 'occupation'.

There are, however, exceptions; /s/ follows /d/ in /həds̪a:/ 'accident' and /ʃ/ follows /d/ in /bəds̪a:/ 'king'. In both these cases a vocalic release intervenes between the stop and the fricative. /y/ which is phonetically a semi-vowel in such sequences may follow both voiceless and voiced stop, e.g. /lukya:/ 'hidden'; /vya:k̪hya:/ 'explanation'; /vigya:n/ 'science'; /pəty̌o'ra:/ 'father-in-law's brother'; /d̪ədy̌o'ra:/ 'father-in-law's father', etc.

Similarly /v/ may also follow a voiceless stop but a vocalic release intervenes in the cluster whereby /v/ retains its dento-labial character; e.g., /ikv̪ənj̪a:/ 'fifty-one'; /s̪ətv̪ənj̪a:/ 'fifty-seven'; /əṭhv̪ənj̪a:/ 'fifty-eight', etc.

(d) Fricative plus stop :

51. Only a voiceless stop follows a voiceless fricative, and a voiced stop follows a voiced fricative. The following clusters occur :

/sk, skh, st, sth, sp, sph, śk, śc, śt, zd, zb, ft, xt/.

Examples :

- /c̪əska:/ 'addiction'; /k̪h̪əsk̪ha:/ 'poppy grain'. /b̪əsta:/ 'satchel';
 /əv̪əst̪ha:/ 'condition'; /b̪əna:sp̪əti:/ 'vegetable'; /nisph̪əl/ 'useless';

/muškəl/ 'difficult'; /niścæ/ 'determination'; /rišta:/ 'relation'; /drišti:/ 'sight'; /māzdu:r/ 'labourer'; /māzbust/ 'strong'; /dāfr̥t̥r/ 'office'; /səxti:/ 'strictness'.

/sb/ in /kəsbə:/ 'town', however, is an exception.

(e) *Fricative plus lateral, rolled or flapped* :

52. All clusters with the exception of /zr, vl/ occur with voiceless fricatives; clusters with /r/ are rare. In all clusters a vocalic release intervenes between the fricative and the following consonant.

The following clusters occur :

/sr, śr, fr, sl, śl, vl, sɾ, zɾ/.

Examples :

/du:sra:/ 'second, other'; /miśri:/ 'sugar-cake'; /nāfr̥t̥/ 'hatred'; /r̥t̥sla:/ 'vessel for cooking'; /viślēṣ̃n/ 'analysis'; /uta:vlə:/ 'hasty'; /k'əsr̥a:/ 'rubbing'; /həzr̥t̥/ 'holy person, knave'.

(f) *Lateral, rolled or flapped plus stop* :

53. (a) All stops except /ch, t̥h, ph/ follow /l/; e.g., /phulka:/ 'chapati'; /milkha:/ 'a name'; /ś̃l̥g̃m/ 'turnip'; /belca:/ 'mattock'; /ka:lja:/ 'liver'; /ul̥t̥a:/ 'contrary'; /d̥a:l̥d̥a:/ 'name of a vegetable ghee'; /g̃l̥ti:/ 'fault'; /p̥l̥t̥hi:/ 'cross-legged'; /j̥l̥di:/ 'haste'; /k̥l̥p̥na:/ 'imagination'; /bulbula:/ 'bubble'.

(b) All stops except /t̥h, ph/ follow /r/, e.g., /sirka:/ 'vinegar'; /b̥ark̥ha:/ 'rain'; /v̥arg̥a:/ 'like'; /p̥ar̥ca:/ 'paper'; /b̥ar̥chi:/ 'spear'; /d̥ar̥ja:/ 'grade'; /pa:r̥ti:/ 'party'; /b̥or̥diNg/ 'boarding house'; /k̥ar̥ta:/ 'author'; /a:r̥thik/ 'economic'; /s̥ar̥di:/ 'cold'; /ərp̥an/ 'dedication'; /herba:/ 'separation'.

(c) /r/ occurs mostly before voiceless stops. The following clusters occur :

/rk, r̥ch, r̥t, r̥th, r̥d/

Examples :

/kh̥r̥ka:/ 'noise'; /k̥ar̥chi:/ 'cooking spoon'; /kur̥ta:/ 'shirt'; /p̥ar̥t̥ha:/ 'roasted'; /p̥ar̥da:/ 'screen'.

(g) *Lateral, rolled or flapped plus fricative* :

54. All fricatives, voiceless and voiced, follow lateral, rolled or flapped, except, that

(i) /ś/ rarely follows /l/ (the only example is /gul̥ś̃n/ 'a name', originally a Persian word meaning 'garden').

(ii) Only /t, v/ follow /r/.

Thus the following clusters occur :

/ls, lz, lś, lf, lv, rs, rz, rf, rv, rś, ry, rf, rv/

Examples :

/talsi:/ 'a plant' ; /mulzəm/ 'accused' ; /kulfi:/ 'a kind of ice-cream' ;
/tālva:r/ 'sword' ; /kursi:/ 'chair' ; /dārzi:/ 'tailor' ; /bārfi:/ 'a sweet-meat' ;
/mārva:na:/ 'to get killed' ; /dārśən/ 'seeing a person with reverence' ;
/mārya:da:/ 'limit' ; /tārfa:na:/ 'to give anguish' ; /cīrva:/ 'flattened rice'.

(h) *Clusters with nasals :*

55. Nasals may form clusters with all types of consonants. Thus clusters occur of : (i) nasal plus stop, (ii) stop plus nasal, (iii) nasal plus nasal, (iv) nasal plus fricative, (v) fricative plus nasal, (vi) nasal plus lateral, rolled or flapped, and (vii) lateral, rolled or flapped plus nasal.

(i) *Nasal plus stop :*

All nasals appear before stops. /n/ occurs before /k, kh, g, c, j, t, th, d, p, b/; /ṇ/ occurs before /k, t, th, d/. /m/ occurs before /k, c, j, t, t, d, p, b/; /N/ occurs as [ṇ] before /k, kh, g/, and as [ñ] before /c, ch, j/.

Examples :

/n/ [ṇ], [ṇ]

/nk/: /inkax/ 'refusal'.
/nkh/: /tānkhā:/ 'salary'.
/ng/: /rāvaŋgi:/ 'departure'.
/nc/: /khōja:nci:/ 'treasurer'.
/nj/: /ānjai:n/ 'ignorant'.
/nt/: /sānta:li:/ 'forty-seven'.
/nth/: /grānthi:/ 'one who recites the holy Granth'.
/nd/: /āndār/ 'inside' ; /gēnda:/ 'dirty'.
/np/: /ānpā'ṛ/ 'illiterate'.
/nb/: /ānbān/ 'unfriendliness'.

/ṇ/ [ṇ] :

/nk/: /māṇka:/ 'bead'.
/nt/: /tāṇṭa:/ 'fuss' ; /bāṇṭa:/ 'small glass-ball'.
/ṇṭh/: /kāṇṭha:/ 'necklace'.
/ṇd/: /kāṇḍa:/ 'thorn', 'balance' ; /khūṇḍa:/ 'blunt'.

/m/ [m]

- /mk/*: */cəmka:nə/* 'to illumine' ; */ləmka:nə/* 'to hang'.
/mc/: */cəmca/* 'spoon'.
/mj/: */səmj'a:nə/* 'to make understand'.
/mɪ/: */cimɪtə/* 'a pair of tongs'.
/mt/: */kəmti/* 'decrease'.
/md/: */nəmda/* 'rug'.
/mp/: */səmpu:rən/* 'accomplished, completed'.
/mb/: */ləmba/* 'long'; */dumbə/* 'ram'.

/N/ [ɳ]

- /Nk/*: */səNka/* 'doubt'; */ləNka/* 'ancient name of Ceylon'.
/Nkh/: */səNkhya/* 'number'; */səNkhia/* 'poison'.
/Ng/: */vəNgā/* 'bracelets'; */cəNga/* 'good'.

/N/ [ɳ]

- /Nc/*: */pəNcət/* 'Panchayat'; */kəNci/* 'scissors'.
/Nch/: */pəNchi/* 'bird'.
/Nj/: */məNja/* 'bedstead'; */gəNja/* 'bald'.

(ii) *Stop plus nasal* :

(a) All stops except */ph/* may be followed by */n/*. A vocalic release intervenes between the stop and */n/*. Some speakers use *[ɳ]* for *[n]*. A few examples will suffice : */lukna/* 'to hide'; */dukhna/* 'to ache'; */vəgna/* 'to flow'; */p'urni/* 'evil spirit'; */pudna/* 'mint'.

(b) */m/* follows both voiceless and voiced stops, but rarely an aspirate, e.g. */cəkmək/* 'a kind of stone'; */təgma/* 'medal'; */məjma/* 'crowd'; */kətməl/* 'bug'; */kə:tma/* 'end'; */sədma/* 'shock'; */ləchmən/* 'a name', etc.

(iii) *Nasal plus nasal* :

(a) */n/* and */m/* both occur as long consonants and before each other, e.g. */gənna/* [*gən:a*] 'sugar-cane'; */cumma/* [*cum:a*] 'kiss'; */sənma:n/* 'honour'; */sinma/* 'cinema'; */cimni/* 'chimney'; */jəmma/* 'river Yamuna', etc.

(b) */ŋ/* does not occur as a geminated or long consonant. It never occurs before */m/* but may occur before */n/* in such verbal

nouns as /sunna:/ 'to hear'; /bōṇna:/ 'to become'; /giṇna:/ 'to count', etc.

(cf. sunna: [sun:a:] 'empty', desolate'; bōṇna: [bōn:a:] 'boundary'.)

(iv) *Nasal plus fricative :*

The distribution of nasals before fricatives is as follows :

/n/: /sənsəni:/ 'sensation', /mənzil/ 'destination', /munəsi:/ 'clerk',
/sənya:s/ 'renunciation', /t'ənvə:n/ 'rich'.

/N/: /səNsa:r/ 'world', /məNzil/ 'destination', /səNyog/ 'chance',
/səNvat/ 'a year in Indian calendar'.

/m/: /k'əmsa:n/ 'pitched battle', /kənzor/ 'weak', /śəmśa:d/ 'a
name', /cəmya:r/ 'shoe-maker'.

The alveolar nasal /n/ before /z/, sometimes, alternates with /N/ as in /mənzil/ ~ /məNzil/.

While /N/ before fricatives takes upon itself the prosodic colouring according to its context, /y/ following /m, n/ is phonetically a semi-vowel.

(v) *Fricative plus nasal :*

Only /n, m/ follow a fricative. Both follow voiceless fricative. /m/ may follow a voiced fricative, but rarely. Thus, the following clusters occur :

/sn, śn, fn, xn, sm, śm, xm, zm/

Examples :

/ca:ni:/ 'sugar syrup'; /rośni:/ 'light'; /sufna:/ 'dream'; /t'uxna:/ 'to smoulder'; /kismət/ 'fate'; /duśmən/ 'enemy'; /zəxmi:/ 'wounded';
/m/ follows voiced /z/ in /ha:zma:/ 'digestive system'; /nazmā:/ 'poems' (oblique plural of /nəzəm/), etc., but most of the people pronounce these words with [j].

(vi) *Nasal plus lateral, rolled or flapped :*

All clusters of this type occur with /m/ as first member :

/ml, mr, mɾ/

Examples :

/gəmla:/ 'flower-pot', /kəmrə:/ 'room', /cəmrə:/ 'leather', etc.

In all cases, a vocalic release intervenes in the cluster.

(vii) *Lateral, rolled or flapped plus nasal :*

/n/, /m/, both follow /l, r, ɾ/. Some speakers use [ŋ] for [n]. The following are examples :

/bðlna:/ 'to burn'; /kərna:/ 'to do'; /lɔrna:/ 'to fight'; /silma:/ 'gold lacing'; /gərmɪ:/ 'heat'; /kuɾmaɾi:/ 'betrothal'.

Medial Three-Consonant Clusters :

56. The medial three-consonant clusters generally consist of /r/ as the final member. /r/ follows stop plus stop, nasal plus stop, fricative plus stop and fricative plus fricative. The following clusters occur :

/tkr, ntr, ndr, str, śkr, sxr, ntl, Ngn/

Examples :

/vitkra:/ 'differentiation'; /səntɾa:/ 'orange'; /pəndrā:/ 'fifteen'; /ustra:/ 'barber's razor'; /maśkɾi:/ 'joke'; /məsxra:/ 'joker'; /əntla:/ final; /təNɡna:/ 'rope for hanging things'.

Final Clusters :

57. Final clusters are few. Only the following clusters occur :

/kkh, cch, t̪h, t̪h, pph, bɾ, ks, Nk, Nkh, Ng, Nc, Nj, nɾ, nɔ nt, nth, nd, mp, mb, mk, Ns, nk, rk, rg, rc, rj, rt, rth, rd, rb, rm, rf, vz, lk, lt, ld, lm, rk, rd, st, śk, ft, xt, z̪b, bz/.

Examples :

/əkkh/ 'eye'; /kəcch/ 'arm-pit'; /ət̪h/ 'eight'; /hat̪h/ 'hand'; /ləpph/ 'wave'; /zəbt/ 'proscribed'; /nuks/ 'defect'; /d̪əNk/ 'pen'; /s̪əNkh/ 'conch'; /d̪əNg/ 'bite'; /m̪əNc/ (in 'rang-maNc') 'stage'; /p̪əNj/ 'five'; /mɪnt/ 'minute'; /pɪnd/ 'village'; /s̪ənt/ 'saint'; /p̪ənth/ 'path, sect'; /b̪ənd/ 'closed'; /ləmp/ 'lamp'; /əmb/ 'mango'; /c̪əmk/ 'brightness'; /h̪əNs/ 'goose'; /chɪnk/ 'spray' (Imp. II. sing.), /f̪ərk/ 'difference'; /v̪ərg/ 'class'; /x̪ərc/ 'expenditure'; /d̪əɾj/ 'entered'; /ś̪ərt/ 'condition'; /əɾth/ 'meaning'; /d̪ərd/ 'pain'; /s̪ərb/ 'all'; /ś̪ərm/ 'shame'; /b̪ərf/ 'ice'; /mulk/ 'country'; /g̪əlt/ 'wrong'; /b̪əld/ 'bull'; /zulf/ 'tress'; /zulm/ 'cruelty'; /s̪ərk/ 'road'; /be-p̪ərd/ 'unscreened'; /sust/ 'slow, lethargic'; /liśk/ 'flash of lightning or brightness'; /muft/ 'free'; /s̪əxt/ 'hard'; /j̪əzb/ 'absorbed'; /n̪əbz/ 'pulse'; etc.

It may be observed that the clusters of the type stop plus stop are few and are restricted to unaspirated voiceless stop followed by voiceless aspirate of the same series, the only exception being /bt/. Phonetically, these clusters should be considered as long consonant plus aspiration, thus /əkkh/ 'eye' [ək:h], /h̪ətt̪h/ 'hand' [h̪ət:h], etc.

Clusters with nasals generally consist of homorganic nasal plus stop or voiceless dental fricative ; only /k/ follows a nasal other than homorganic one.

In clusters with /r/, all unaspirated stops except /p/ may follow /r/ ; /rt/, rd/ clusters are, however, rare as they occur in such foreign words as /pa:rt/ 'part' ; /ga:rd/ 'guard' only. No aspirate except /th/ follows /r/.

Lateral and rolled may be followed by both voiceless and voiced stops, but only voiceless stop follows the voiceless fricative and voiced stop occurs with the voiced fricative before or after.

Nasalisation :

58. All vowels, short and long, may occur as nasalised, e.g. /ðgi:ɳhi:/ 'fire-place' ; /ũgli:/ 'finger' ; /ɽvẽ/ 'like this' ; /jã:vã:ga:/ 'I shall go' ; /nĩ:d/ 'sleep' ; /ũ:ɳh/ 'camel' ; /gẽd/ 'ball' ; /pãt/ 'bed-string' ; /hõd/ 'existence, presence' ; /jõ/ 'barley'.

Nasalisation is distinctive in the following pairs :—

/sa:g/ 'vegetable'	/sã:g/ 'farce'
/sa:i:/ 'advance'	/sa:ĩ:/ 'master, saint'.
/t'u:/ 'drag'	/t'ũ:/ 'smoke'
/god/ 'lap'	/gõd/ 'plot' (in fiction)
/mðre/ 'III. sing. Pot. of ✓mar 'to die'	/mðrẽ/ 'II. sing. Pot. of ✓mar 'to die'
/sõ/ 'hundred'	/sõ/ 'sleep' (II. sing. Imp.)

Stress :

59. Although stress is not a prominent feature of Panjabi, it is, however, sometimes phonemic. The following pairs are distinguished by means of stress only :

/rðla:/ 'mixture'	/rðlá:/ 'mix (Im, II. sing.).
/tðla:/ 'sole'	/tðlá:/ 'tank'.
/gðla:/ 'throat'	/gðlá:/ 'melt' (Imp, II. sing.).
/pðla:/ 'laddle'	/pðlá:/ 'make drink' (Imp, II. sing.).
/tðɽka:/ 'early morning'	/tðɽká:/ 'get seasoned'.

Tones :

60. Panjabi has three distinctive tones;⁴ namely (1) Level Tone, (2) Low or Low-rising tone, (3) High or high-falling tone.

Level Tone : Level tone is the average middle pitch which starts at a mid level and ends abruptly with a slight rise. All types of monosyllabics may have this tone. Disyllabics may also have it either on the first syllable or on the second. Stress in all these cases is concomitant of tone as it falls on the same syllable as bears the pitch. Or it may be said, it is the stressed syllable that bears the pitch. Both ways, the two cannot be split apart.

Low Tone : Low tone, as described by Dr. Grahame Bailey⁵, "begins about a tone above the lowest note which the speaker can command, rises about two semi-tones⁶ and sometimes falls again about a tone." Syllables having this tone are often pronounced with a creaky voice and there is a feeling of considerable constraint in the larynx.

The low tone occurs in monosyllabics, disyllabics and trisyllabics. In the monosyllabics, it may occur on all vowels preceded by an unaspirated voiceless stop, nasals [n, m], rolled [r] or lateral [l]. [r] or semi-vowels following a consonant do not affect the phonetic nature of the tone if they precede the vowel; e.g. /k'ðr/ 'house'; /c'ar/ 'rebuke'; /t'ill/ 'laxity'; /p'ir/ 'crowd'; /t'un/ 'note of music'; /t'ut/ 'dust'; /p'ed/ 'sheep'; /p'æ/ 'fear'; /n'a/ 'bathe'; /t'ru/ 'pole-star'; /m'æs/ 'buffalow'; /t'ya:n/ 'meditation, attention'; /t'va/ 'make washed'; /l'va/ 'to get put off'; /r'ya/ 'released', etc.

4. The feature of tones in Panjabi was first discovered by Dr. T. Grahame Bailey. Describing the Gujranwala-Wazirabad dialect, Dr. Bailey noted the existence of two special tones, viz: low-rising and high-falling, and a third combined tone. In his treatment of tones in the Ludhiani dialect, Dr. Banarsi Dass Jain followed Dr. Bailey, except that he noted that "the third or combined tone is not so common in Ludhiani". (A Ludhiani Phonetic Reader, 1934, Pf. 91, P. 167). Our treatment differs in that there is no combined tone in the literary language described here. Again, even in the dialects described by Bailey and Jain, it is a phonetic feature only. As contrasts with the combined tone do not exist in the language, it has no phonemic significance. Our level tone, on the other hand, has both phonetic and phonemic contrasts.

5. Panjabi Phonetic Reader, 1914, P. XV.

6. This statement is a modification of Dr. Bailey's statement in the reader which said "four or five semi-tones". Bloch in *Melanges Vendryes* P. 58.

In the disyllabics the tone occurs either on the first or on the second syllable. In the first case, the vowel bearing the tone is preceded by a voiceless unaspirated stop, nasals [n, m] and lateral [l]. The semi-vowels preceding the vowel do not affect the phonetic nature of the tone; e.g. /k'ə̀ra:/ 'pitcher'; /c'ãxu:/ 'broom'; /t'ãi:/ 'two and a half'; /t'ella:/ 'half pice'; /p'ura:/ 'brown'; /t'yãi:/ 'thirsty'; /p'vãi:/ 'turned round'; /n'ãtta:/ 'bathed'; /m'ĩnna:/ 'month'; /l'vãrə̃n/ 'iron-smith's wife', etc. In the second case, the tonic vowel follows voiced stops, alveolar and bilabial nasals [n, m], rolled and flapped [r, ɾ] and lateral [l]; e.g. /ug'ãr/ 'open'; /buɟ'ã:/ 'put out'; /kə̃d'ã:/ 'take out'; /və̃d'ã:/ 'increase'; /sub'ã:/ 'nature'; /bən'ã:/ 'get packed'; /sə̃m'ã:/ 'keep safe, take charge'; /və̃r'ã:/ 'make rain'; (Imp.) /cə̃r'ã:/ 'get ride'; /mə̃l'ãr/ 'fondling'; etc.

In a few cases where the tone occurs on the second syllable, the vowel bearing the tone may follow a voiceless stop also, if the element preceding the stop is of the nature of a prefix, e.g. /nə̃t'ã:/ 'weak'; /nə̃p'ãg/ 'unfortunate'; etc.

In all cases, the tone occurs on the stressed syllable only excepting the few cases where the originally stressed syllable has lost its force on account of grammatical reasons, e.g. k'ə̀tã:/ [k'ə̀t'ã:] 'decrease'; p'ə̀rã:/ [p'ə̀r'ã:] 'get filled', etc. This applies to the trisyllabics also. The tone in trisyllabics occurs, as a general rule, on the second syllable which is invariably stressed. But sometimes the tone remains on the first syllable which was originally stressed. In such cases the shifting of stress to the next syllable causes no change in the nature of the tone, except that a part of it goes to the next syllable making a semblance of two tones. Even if we shift the tone to the stressed syllable a tonic effect remains on the first syllable. Thus disyllabic [k'ə̀t'ã:] 'decrease' and trisyllabic [p'ə̀r'ãi:] 'getting filled' may be pronounced as [k'ə̀t'ã:] or [kə̃t'ã:], [p'ə̀r'ãi:] or [pə̃r'ãi:], respectively."

High-falling tone: The high-falling tone, according to Dr. Bailey, is uttered about a fifth (seven semi-tones) above the first note of the low-rising tone. The voice generally falls about a tone from the highest tone.

The high-falling tone may occur in monosyllabics, disyllabics and trisyllabics. In the monosyllabics, the tone may occur on any vowel preceded by a consonant (voiced or unvoiced) or consonant

7. The symbol [—] below the vowel signifies that the unstressed vowel has a low pitch.

plus semi-vowel ; e.g., /kæ/ 'say' ; /dè/ 'body' ; /gɔ/ 'attention' ; /khò/ 'open' ; /cà:r/ 'put' ; /cà:r/ 'climb' ; /vì/ 'twenty' ; /mìj/ 'marrow' ; /bùdd/ 'wisdom' ; /dù:r/ 'one and a half' ; /vyà/ 'marriage' ; /svà/ 'ash', etc. Vowels not preceded by any consonant may also have tone, e.g. /è/ 'this' ; /ó/ 'that' ; /ə'dd/ 'half', etc.

The disyllabics may have tone either on the first syllable or on the second. In the first case, the tone may occur on any vowel following a consonant of whatever type except /n, r/ which do not occur initially ; e.g. /kà:la/ 'hasty' ; /gù:ra/ 'fast' ; /bùdda/ 'old' ; /jìddər/ 'to which direction' ; /pì:rì/ 'foot-stool' ; /bə'dda/ 'bound' ; /pæ'la/ 'first' ; /hɔ'ka/ 'deep sigh' ; /jè:ra/ 'who, whoever' ; /kò:ra/ 'leper', etc. The words with initial vowels also have this tone, e.g., /òdar/ 'in that direction' ; /èdər/ 'in this direction', etc. If the tone occurs on the second syllable, the vowel bearing the tone is either final or followed by a consonant. The vowel may be preceded by any consonant except /h/ ; e.g., /kə:ra/ 'pudding' ; /mə:là/ 'boat-man' ; /sə:là/ 'advice' ; /və:sà/ 'trust' ; /nə:kà/ 'marriage performed according to Mohammedan rites' ; /və:gà/ 'throw with anger' ; /kurà/ 'evil path' ; /sə:rà:d/ 'feasts given in the name of dead fore-fathers by Hindus' ; /sə:tà:t/ 'sixty-seven' ; /ət'hà:t/ 'sixty-eight' ; /mə:tə't/ 'subordinate', etc.

In trisyllabics, the tone occurs on the second syllable. The vowel bearing the tone may either be followed by a vowel, or by a consonant or consonants ; e.g. /kə:rà:i/ 'cooking pan' ; /surà:i/ 'flask' ; /ulà:mma/ 'taunt', etc.

In all cases, the high tone occurs on the stressed syllable only.

A COMPARISON OF THE PHONEMIC SYSTEMS OF HINDI AND PANJABI

Vowels :

61. The number of vowels, their quality and quantity are the same in Hindi and Panjabi. Both have two high front vowels /i, i:/ distinguished by length, two high-mid front vowels /e, æ/, both long, two high back vowels /u, u:/ short and long, two high-mid back vowels /o, ɔ/, both long, a low back vowel /a:/, only long, and a low mid central vowel /ə/ with two allophones [ʌ] and [ə], short only.

Besides these simple vowels, Hindi and Panjabi both have the same diphthongs /ai, au/ occurring in almost similar situations.

Consonants :

62. Hindi has a greater number of consonants than Panjabi. It has twenty stops, four unaspirated and two aspirated nasals, eight fricatives including two semi-vowels /y, v/, two alveolar laterals (aspirated and unaspirated) one alveolar rolled and one retroflex flap. Panjabi, on the other hand, has fifteen stops, four unaspirated nasals, eight fricatives including the semi-vowels /y, v/, one alveolar lateral, one alveolar rolled, and one retroflex flap.

While most of the consonants in Hindi have the same distinctive features, the main difference between the two systems lies in aspiration. Hindi has both voiceless and voiced aspirates whereas Panjabi has only voiceless aspirates (see *Tables on P. 1 and 22*). Similarly there are no aspirated nasals in Panjabi. Phonetically, Hindi has an aspirated retroflex flap [ɽʰ] beside the unaspirated [ɽ].⁸ Panjabi has only the latter. The glottal aspirate [h] is voiced in both Hindi and Panjabi, but its occurrence is restricted mostly to initial position in Panjabi, whereas it occurs initially before vowels, intervocalically, and medially before voiced consonants in Hindi. The unvoiced [h] occurs only as component of voiceless aspirates [kʰ, cʰ, tʰ, th, pʰ], and sometimes intervocalically in Panjabi, while in Hindi it occurs medially before voiceless consonants and finally in addition to its occurrence as a component part of voiceless aspirates.

8. Phonetically there are two retroflex flapped consonants [ɽ, ɽʰ] in Hindi. But phonemically, the latter is an allophone of retroflex stop [ɽb].

Thus, aspiration being the main difference, consonants in the two systems agree and differ as follows :

Labial Stops :

63. [p], [ph], [b], all have the same distinctive features in Panjabi as in Hindi. The distinctive feature of [p] is labial closure which it has in common with [ph] and [b]. But the latter distinguish themselves by other features. [ph] has aspiration in addition to labial closure, whereas [b] has labial closure accompanied by voice.

All these stops contrast with each other in both Hindi and Panjabi, e.g. [pʌ] 'moment'; [phʌ] 'fruit'; [bʌ] "force", etc. These words are common to Hindi and Panjabi.

[bh] is absent in Panjabi. Its distinctive feature is labial closure accompanied by voice and aspiration. Hindi shows contrast between [bh] on the one hand, and [p], [ph], [b] on the other, e.g. [bha:l] 'fore-head'; [pa:l] 'sail'; [pha:l] plough-share, [ba:l] 'hair', etc.

A comparative view of Hindi and Panjabi labial stops in terms of articulatory features may be presented as under :

<i>Hindi</i>	<i>Panjabi</i>
Lc	Lc
LcA	LcA
LcV	LcV
LcVA	X

Dental Stops :

64. [t], [th], [d] distinguish themselves from each other in both the systems. All have dental closure as their distinctive feature, but [th] has aspiration in addition and [d] distinguishes itself from [t], [th] by voice. Hindi and Panjabi, both show contrasts in [t], [th] and [d], e.g. [ta:l] 'measurement of note in respect of time in music'; [tha:l] 'big plate'; [da:l] 'pulse'. [dh] is absent in Panjabi. In Hindi, it contrasts with [t], [th] and [d], e.g. [ta:n] 'musical note'; [tha:n] 'full piece of rolled cloth of big length'; [da:n] 'gift'; [dha:n] 'husked rice'; etc. The distinctive feature of [dh] is dental closure accompanied by voice and aspiration.

The difference in terms of distinctive features may be shown as follows :

<i>Hindi</i>	<i>Panjabi</i>
Dc	Dc
DcA	DcA
DcV	DcV
DcVA	X

Retroflex Stops :

65. [ɖ], [ɖʱ], [ɗ] all distinguish themselves from each other in both Hindi and Panjabi. The distinctive feature of [ɖ] in common with [ɖʱ] and [ɗ] is post-alveolar closure accompanied by retroflexion. [ɖʱ] has aspiration in addition. [ɗ] distinguishes itself by voice accompanying post-alveolar closure with retroflexion.

[ɖ] contrasts [ɖʱ] and [ɗ] in Hindi [ɖoli:] 'group of persons', [ɖʱoli:] 'joke, keep'; [ɗoli:] 'palanquin' and Panjabi [ɖor] 'gait'; [ɖʱor] 'strike lightly' (Imp.), [ɗor] 'kite-string', etc.

[ɖʱ] is absent in Panjabi. In Hindi it contrasts [ɖ] and [ɗ] in [ɖa:l] 'firewood-stall'; [ɗa:l] 'branch of a tree'; [ɖha:l] 'shield', etc., and [ɖʱ] in [ɖhela:] 'lump'; [ɖʱhela:] 'hand-cart'. The distinctive feature of [ɖʱ] is post-alveolar closure accompanied by retroflexion plus voice and aspiration.

In terms of distinctive features Hindi and Panjabi retroflex stops present their similarity and difference as given below :

<i>Hindi</i>	<i>Panjabi</i>
P-AcR	P-AcR
P-AcRA	P-AcRA
P-AcRV	P-AcRV
P-AcRVA	X

Palatal Stops (Affricates) :

66. [c], [ch], [j] phonetically affricates, distinguish themselves from each other in both the systems. The distinctive feature of [c] is palatal closure accompanied by friction, common to [ch] and [j], but the latter are distinguished from the former by aspiration and voice, respectively, accompanying the closure.

Hindi and Panjabi both show contrasts between [c], [ch], [j] in such words as H. [c^l] 'go' (Imp.); [ch^l] 'deceit'; [j^l] 'water'; and P. [ca:l] 'gait'; [cha:l] 'jump'; [ja:l] 'snare', etc.

[jʱ] is absent in Panjabi. Its distinctive feature is aspiration accompanying the palatal closure with friction and voice. In Hindi [jʱ] contrasts [c], [ch], [j] in such words as [jʱha:l] 'envy'; [ca:l] 'gait'; [cha:l] 'bark of tree'; [ja:l] 'snare', etc.

In terms of distinctive features the difference between Hindi and Panjabi is as follows :

<i>Hindi</i>	<i>Panjabi</i>
PcF	PcF
PcFA	PcFA
PcFV	PcFV
PcFVA	X

Velar Stops :

67. [k], [kh], [g] all have velar closure, but [kh] is distinguished from [k] by aspiration, and [g] by voice. All of them contrast each other in Hindi and Panjabi, e.g., H. [ka:l] 'time'; [kha:l] 'skin'; [ga:l] 'cheek'; P. [ka:l] 'time'; [kha:l] 'small dug channel'; [ga:l] 'abuse', etc.

[gh] is absent in Panjabi. Its distinctive feature is velar closure accompanied by voice and aspiration. In Hindi [gh] contrasts [k], [kh], [g] in such words as [gh^ra:] 'pitcher'; [k^ra:] 'bracelet'; [kh^ra:] 'standing'; [g^ra:] 'buried, laid under ground', etc.

In terms of distinctive features, the difference between Hindi and Panjabi velar stops may be noted as follows :—

<i>Hindi</i>	<i>Panjabi</i>
Vc	Vc
VcA	VcA
VcV	VcV
VcVA	X

Nasals :

68. Aspirated nasals are absent in Panjabi, others have the same distinctive features in Hindi and Panjabi. Hindi distinguishes aspirated [mh], [nh] from unaspirated [m], [n] in such pairs as :

[kumar] 'young boy'	[kumbar] 'potter'
[ka:n] 'ear'	[ka:nh] 'Krishna'

The difference between the two systems may be shown as follows :

	<i>Hindi</i>	<i>Panjabi</i>
/m/ [m]	LcVN	LcVN
/mh/ [mh]	LcVNA	X
/n/ [n]	AcVN	AcVN
/nh/ [nh]	AcVNA	X
/ŋ/ [ŋ]	P-AcRVN	P-AcRVN
/N/ [N]	VcVN	VcVN
[ñ]	PcVN	PcVN
[N]	NI	NI

Flapped :

69. Unaspirated retroflex flap [ɾ] is common to Hindi and Panjabi, but the aspirated retroflex flap [ɾʰ] is absent in Panjabi. Aspiration is distinctive in Hindi in such pairs :

[baɾɪ] 'hedge'	[baɾʰɪ] 'flood'
[pʌɾ] 'fall'	[pʌɾʰ] 'read'
[ga:ɾi:] 'train', 'any conveyance'	[ga:ɾʰi:] 'thick'
[koɾi:] 'score'	[koɾʰi:] 'leper'

Panjabi distinguishes by employment of tone instead, e.g. [koɾa:] 'whip', [kòɾa:] 'leper', etc.

Rolled :

70. There is no difference of articulatory position of [r] in the two systems. In both the languages, it is an unaspirated alveolar rolled or trill sound. It consists of a single tap, but in final position, it may have more than one tap. Aspirated rolled [rʰ] is absent in both the languages.

Laterals :

71. Hindi has two laterals [l] and [lh], both alveolar. Panjabi has only the former. Aspirated [lh] contrasts with unaspirated [l] in Hindi in the following :

[a:la:] 'shelf in a wall'	[a:lha:] 'heroic song or kind of metre'
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Fricatives :

72. The number of fricatives and their articulatory positions are the same in Hindi as in Panjabi. /y, v/, each having two allophones [y, i] and [v, w] respectively, may be regarded as semi-vowels in both the systems.

Besides aspiration, there are other articulatory features the absence or presence of which is an important factor in differentiating the two languages. Among these the most important is the **tones** which characterise the Panjabi language.

Tones :

73. As already stated, Panjabi has three distinctive tones; viz; level, low-rising and high-falling. While there is a three-way tone-contrast on the monosyllabics, and on the disyllabics, there is a three-way contrast on the first syllable and two-way contrast on the second

syllable, the employment of tones in Panjabi sometimes serves the same purpose as aspiration in Hindi. For example :

<i>Aspiration</i>	<i>Tones</i>
/kəṛa:/ 'hard'	/kəṇḍa:/ 'thorn'
/kəṛha:/ 'boiled'	/kəṇḍa:/ 'bank'
/ba:g/ 'garden'	/ba:g/ 'garden'
/ba:gh/ 'tiger'	/bā:g/ 'tiger'
/a:/ 'come'	/mā:/ 'mother'
/a:h/ 'sigh'	/mā:/ 'black bean'
/ra:/ 'mustard'	/ra:/ 'mustard'
/ra:hi/ 'way-farer'	/rā:/ 'way-farer'

Stress :

74. Hindi and Panjabi both, sometimes, distinguish between otherwise identical words by means of the stress accent. Stress is phonemic in such pairs as H. /gəla:/ 'throat' : /gəlá:/ 'melt'; /ghəṭa:/ 'thick cloud' : /ghəṭá:/ 'decrease'; P. /rəla:/ 'mixture' : /rəlá:/ 'mix'; /təla:/ 'sole' : /təlá:/ 'tank'.

Nasalisation :

75. Phonemic nasalisation occurs in both the languages. All long vowels occur as phonemically nasalised in Panjabi as in Hindi (For examples see P. 21, 36).

Consonant Length :

76. Long consonants may follow a short or long vowel in Panjabi; in Hindi they follow a short vowel only. Panjabi long consonants may occur medially or finally, but Hindi long consonants occur medially only, as they are rarely in final position. Medially, both may be followed by a long or short vowel. Thus P. /səcca:/ 'truthful'; /səcc/ 'truth'; but H. /səcca:/, /səcc/; P. /sa:dda:/ 'simple', but H. /sa:da:/ 'simple'; P. /cikkkər/ 'mud'; H. /cəkkər/ 'circle', etc.

Distribution of Phonemes :

77. (i) All simple vowels occur initially, medially and finally and the diphthongs occur medially only in both the languages.
- (ii) In sequences of vowels, Hindi has a greater number of patterns than Panjabi, as VV̄ patterns are by far more common in the former,

- (iii) All consonants which are similar in the two systems occur initially, medially and finally except that /n, r/ do not occur initially and /N/ occurs medially only in Hindi as well as in Panjabi, and /h/ does not occur finally in the latter.
- (iv) All types of consonant clusters, initial, medial and final, occur in both the languages but the number and variety of clusters is by far less in Panjabi as compared with Hindi. Most of the initial clusters in Panjabi are with /r/ as the second member 'whereas Hindi has many clusters with /s/ occurring initially besides those with /r/. Most of the medial clusters are the same in Panjabi as in Hindi, but the latter has a larger number of clusters than Panjabi.

78. The following is the list of clusters common to Hindi and Panjabi :

INITIAL CLUSTERS :

/kr, gr, tr, dr, pr, br, fr, sr, śr, sv/

MEDIAL CLUSTERS :

Starting with /k/ :

/kkh, kc, kt, kd, kb, kn, km, kl, kr, kṛ, kf, ks, kś/

Starting with /kh/ :

/khn, khl, khc, kbṛ/

Starting with /g/ :

/gṛ, gt, gd, gn, gm, gl, gr, gr/

Starting with /c/ :

/ck, cch, cp, cn, cl, cr, cr/

Starting with /ch/ :

/cht, chm, chl, chṛ/

Starting with /j/ :

/jg, jd, jp, jb, jm, jl, jr, jr/

Starting with /t/ :

/tk, tth, tn, tm, tl, tr, tr/

Starting with /th/ :

/thl, thr, thr/

Starting with /t/ :

/tk, tth, tp, tn, tm, tl, tr, tkr, tr, ts/

Starting with /th/ :

/thn, thl, thr, thr/

Starting with [d] :

[dn, dm, dl, dr, d̄r, dś, ds]

Starting with [p] :

[pk, pt, p̄t, pn, pm, pl, pr, p̄r]

Starting with [b] :

[bk, bj, bd, bn, bl, br, b̄r, bz]

Starting with [n] :

[nk, nkh, ng, nc, nj, nt, ntr, nth, nd, ndr, np, nb, nm, ns, nś,
ny, nv]

Starting with [ŋ] :

[nt, nth, nd]

Starting with [m] :

[mk, mc, mt, m̄t, md, mp, mb, mn, mz, mr, m̄r, ml, ms, mś,
my]

Starting with [N] :

[Nk, Nkh, Ng, Nc, Nch, Nj, Ns, Nz, Ny, Nv]

Starting with [s] :

[sk, skh, st, str, sth, sp, sph, sb, sn, sm, sr, s̄r, sl]

Starting with [ś] :

[śk, śc, śt, ś̄t, śn, śm, ś̄r, śl]

Starting with [l] :

[lk, lg, lc, lt, ld, lt̄h, ld, lp, lb, ln, lm, lr, ls, lz, lś, lf, lv].

Starting with [r] :

[rk, rkh, rg, rc, rch, rj, r̄t, rd, rt, rth, rd, rp, rb, rn, rm, rl, rs,
rz, rf, rv]

Starting with [r̄] :

[r̄k, r̄ch, r̄t, r̄n, r̄v]

Starting with [f] :

[ft, fn, fr]

Starting with [v] :

[vl]

Starting with [z] :

[zd, zb]

Starting with [x] :

[xt, xn]

FINAL CLUSTERS :

[bt, bz, ks, Nk, Nkh, Ng, Nc, Nj, nt, nth, nd, nt, nth, nd, mp,
mb, ns, rk, rg, rc, rj, rt, rth, rd, rm, rf, rz, lk, lt, ld, lm, st, ft, xt]

Allophonic Comparisons :

79. The Hindi /a/ phoneme has two allophones [ʌ] and [ə] which occur in stressed and unstressed syllables respectively. Panjabi /a/ phoneme has also two allophones [ʌ] and [ə], which occur in the same situations. Thus H. [ʌ]=P. [ʌ] in H. [ghʌr], P. [kʰʌr] 'house', and H. [ə]=P. [ə] in H. [sərkə:r], P. [sərkə:r] 'Government' etc.

Hindi /e/ consists of only one allophone [e] whereas Panjabi /e/ phoneme has two allophones [e] and [ɛ̃]. While Panjabi [e] corresponds to Hindi [e], the situations where they occur being almost the same, Panjabi [ɛ̃], which is slightly short, occurs in stressed syllables, and is followed by a long vowel generally in final position. Thus H. [e]=P. [e] in H. [te:l], P. [te:l] 'oil', H. [kʰre], P. [kʰre] 'may do'; H. [mera:], P. [mera:] 'mine', but P. [ɛ̃] in [sɛ̃o] 'apple', [lɛ̃a:] 'took' etc. has no parallel in Hindi.

Both Hindi and Panjabi /n/ phonemes have two allophones [n] and [ɳ] which occur in such common words as [na:ɳ] 'barber'; [dɪn] 'day'; [ɪnkʌr] 'refusal', and [ʌnt] 'end'; [gʌnda:] 'dirty', etc.

Like Hindi /N/ phoneme, Panjabi /N/ also consists of three allophones [ŋ], [ɳ̌] and [N] which occur in the same situations; e. g. H. [ŋ]=P. [ŋ] in common Hindi and Panjabi [rʌŋ] 'colour'; H. [ɳ̌]=P. [ɳ̌] in common Hindi and Panjabi [gʌɳ̌ja:] 'bald'; H. [N]=P. [N] in common Hindi and Panjabi [sʌmsar] 'world', [sʌmvɪt] 'a year in Indian Calendar', etc.

Semi-vowels /y, v/ have two allophones each in Hindi and Panjabi. They are /y/: [y], [ɪ], /v/: [v], [w]. Hindi [y] corresponds to Panjabi [y] in common H., P. [ya:d] 'remembrance'; [mʌrya:da:] 'limit', etc., and Hindi [ɪ] occurs in the same situation as Panjabi [ɪ] in [piar] 'affection', [gɪa:n] 'knowledge' common to both.

Hindi [v]=Panjabi [v] in common H., P. [va:r] 'attack', [seva:] 'service', [nʌv] 'new', etc., and H. [w]=P. [w] in common H., P. [dwa:ra:] 'by means of', [jwa:r] 'kind of millet', etc.

Hindi /h/ and Panjabi /h/ both consist of two allophones [h] and [ɦ]. In Hindi [h] occurs initially before vowels, medially before voiced consonants and intervocally, whereas panjabi [h] generally occurs initially only. Hindi [ɦ] occurs medially before voiceless consonants and finally, but P. [ɦ] occurs intervocally only. Thus H. [h]=P. [h] in initial positions only, and H. [ɦ] does not correspond to P. [ɦ].

PART II

EVOLUTION OF HINDI AND PANJABI PHONOLOGY : A COMPARATIVE STUDY

80. Historically speaking, there are three linguistic strata in the phonology of Hindi and Panjabi :

(1) Old Indo-Aryan, (2) Middle Indo-Aryan, and (3) New developments due to borrowings or otherwise.

These may be discerned as follows :

Old Indo-Aryan Stratum :

81. This stratum is common to Hindi and Panjabi as most of the sounds in the phonological structures of these languages come from the Old Indo-Aryan parent stock. In spite of the phonetic decay which began vigorously from the Middle Indo-Aryan period and continued uninterrupted until the New Indo-Aryan came into being, the old heritage is still more important than the new developments or innovations. The parent speech of Hindi had preserved all vowels except [ɪ], [ʊ], [ai], [au], and all consonants except [y, v, ʃ, ʒ, s, z], *jihvamūliya*, *upadhmāniya* and *visarga* of the Old Indo-Aryan system. Similar is the case with Panjabi with very little difference.

Middle Indo-Aryan Stratum :

82. The Middle Indo-Aryan Stratum is important for its tendencies of phonetic decay and contraction. What Hindi and Panjabi, like many other New Indo-Aryan languages, have not preserved of the Old Indo-Aryan stock, was, in fact, lost in the Middle Indo-Aryan stage. Thus, the so called change of [ɾ] to [ʌ, i, u] in Middle Indo-Aryan is responsible for its absence in all the New Indo-Aryan languages. We are not very sure about the phonetic nature of this sound in the oldest phase of Old Indo-Aryan, and its different pronunciations which developed later, but one thing is clear: the consonant element had dropped in Middle Indo-Aryan, leaving the vocalic element alone. This appeared to Prakrit grammarians to be the modifications of [ɾ] as [ʌ, i, u]. In New Indo-Aryan, the consonant element has returned, but not as a part of syllabic [ɾ]. Its revival has nothing to do with the Middle Indo-Aryan phonology. It is rather a new development owing its origin to the borrowings from Sanskrit.

[ɪ] had already become rare in Sanskrit. [ai, au] were reduced to [e, o] in Middle Indo-Aryan. Of the consonants, Middle Indo-Aryan had no [y], the cerebral [ʃ], the *visarga* and the velar and labial spirants. Some Prakrits, as the parent Prakrits of Hindi and Panjabi, had the dental [s] only, while others like Māgadhī had the palatal [ʃ] only.

Besides these losses, there were innovations also. Short [ɛ], [o] were added to the phonology, although the traditional orthography did not introduce new symbols for these sounds. The elision of intervocalic consonants played havoc with the words. The resultant vowels in hiatus kept themselves apart for some time probably to maintain the syllabic weight, but this could not go long. A new powerful tendency arose. The vowels in hiatus began to be contracted so as to become one single long vowel. This happened probably in Late Middle Indo-Aryan. Along with contraction the insertion of y, w glides was also very popular with the Apabhramśa. This again was a device to maintain the syllabic weight of the words which had suffered internally.

In addition to elision, there was another tendency with regard to medial consonants, which was perhaps more powerful and started quite early. What we know as conjuncts or consonant clusters in Old Indo-Aryan were assimilated in Middle Indo-Aryan, resulting into so-called double consonants. While this affected the phonology of Middle Indo-Aryan to a great extent, it also led, as we shall see later, to further simplification of these consonants in most of the New Indo-Aryan languages.

New Developments :

83. The new sounds added to the inheritance fall under two heads: (1) Independent development, and (2) taken through borrowings.

Low-mid front and back vowels (æ, ɔ) in Hindi and Panjabi have developed independently along the same lines. They are the result of open articulation of second element in diphthongs [ai], [au] which in their turn resulted from vowels in hiatus, an inheritance from Middle Indo-Aryan. Now the diphthongs [ai, au] in the words recently borrowed from Sanskrit also fall in line with the Middle Indo-Aryan ai, au, and follow the same course.

Likewise the feature of tones is an independent development in Panjabi. While Hindi retains the Old Indo-Aryan aspirate and the

aspirated stops in all positions, fully and clearly, the surrounding languages like Panjabi, Sindhi, Gujarati and Bengali have the various modifications of [h] and the voiced aspirates. Panjabi retains the aspirate [h] initially only and sometimes intervocally, and the voiceless aspirates in all positions. The medial and the final [h] is lost and the voiced aspirates in all positions are variously modified. The change is accompanied by tone in all cases.

The introduction of retroflex flaps [ɽ, ɽh] in Hindi and [ɽ] in Panjabi is the further development of Middle Indo-Aryan retroflex stops [ɖ, ɖh] in intervocal position, either original or from Old Indo-Aryan [ṭ, ṭh].

Aspirated lateral [lh], and the aspirated nasals [mh, nh] are the other sounds which have independently developed in Hindi.

The sounds taken through borrowings come from two sources, the Indian and the non-Indian source. The Indian source which in effect is the Sanskrit source, has been always readily available since New Indo-Aryan came into being. The need for replenishing the New Indo-Aryan languages with Sanskrit words was real. As Dr. Suniti Kumar Chatterji puts it: "Even more than Latin for French, for Spanish and for Italian, Sanskrit was indispensable for the New Indo-Aryan languages."¹ While Hindi, like many other New Indo-Aryan languages, started to replenish itself with Sanskrit words, may be *tatsamas* or *semi-tatsamas*, quite early, Panjabi has started to do so only recently. The difference of time is due to the fact that Panjabi has felt the need only recently.

As we have already stated elsewhere, the preponderance of Sanskrit words in Hindi is responsible for the reintroduction of certain Old Indo-Aryan sounds which had dropped in Middle Indo-Aryan, especially in the parent Prakrit of Hindi. The diphthongs [ai, au] had disappeared from all Prakrits giving place to [e, o]. These have been now reintroduced in Hindi, at least in the learned speech, through borrowings from Sanskrit. The palatal fricative [ś] is another sound which had disappeared from most of the Prakrits including the parent Prakrits of Hindi and Panjabi. This sound has returned to both Hindi and Panjabi following the introduction of Sanskrit words. Its use has been further extended to include the Old Indo-Aryan retroflex [ṣ] in Sanskrit words which was previously pronounced as [kḥ] in old Hindi and Panjabi. Thus the Sanskrit [bhaṣa] used to be

1. *Indo-Aryan and Hindi*, Ahmedabad, 1942, p. 126.

pronounced as [bhākḥā] in old Hindi and Panjabi, is now pronounced with [ś] in both Hindi and Panjabi. The palatal voiced fricative [y] has also returned to Hindi and Panjabi and has replaced [j] in such old Hindi and Panjabi words as *jug* 'age', *jatan* 'attempt', etc. through the Sanskrit tatsama or semi-tatsama *yug*, *yatn*, etc.

The non-Indian source comprises loans from Persian, Arabic and English. While the loans from Arabic are not direct as they come through Persian, English has contributed little to the phonology of Hindi and Panjabi. All that it has done is that some fricative sounds which entered into Hindi and Panjabi through Persian influence and loans have been retained upto now. Thus the dental voiced fricative [z] which is invariably confused with [j] in rustic speech and sometimes in the speech of the literate also, is distinctly heard in the literary language in such words as *mazdur* 'labourer', *zulm* 'atrociousness', *zamin* 'land' etc. Similarly the dento-labial voiceless fricative [f] which is generally confused with the labial voiceless stop [ph] is pronounced in such words of Persian origin as *saif* 'clean', *barf* 'ice', *fasal* 'crop', *ka:fi* 'sufficient', etc. In Panjabi this sound has replaced the original [ph] also in such native words as *pher* 'then, again', (pronounced as *fer*); cf. H. *phir*), *saphal* 'successful' (pronounced as *safal*) etc.

The velar voiceless spirant [x] which in fact has replaced the uvular [χ] in words of Perso-Arabic origin is confused with the velar voiceless aspirated stop [kh]. But we hear this sound in the literary speech in such words as *xali* 'empty', *xuś* 'glad', *xuḥ* 'much', etc. common to Hindi and Panjabi. Panjabi has it sometimes in the native words also, e.g. *dhuxna* [t'uxna:] 'smoulder', etc.

Some educated speakers pronounce the vowel sound in English 'hot' in such common words as have been borrowed from English. The tendency is more prominent in Hindi than in Panjabi; e.g. H. [dʌkt̪ər] or [dʌ:kt̪ər] (Eng. *doctor*), [kʌŋɡres] or [kã:gr̩s̩] (Eng. *congress*), [kʌleɪ] or [ka:liɪ] but P. [dʌkt̪ər], [kã:gr̩s̩], [ka:l̩ɪ] only.

84. We have said that most of the sounds in the sound-system of Hindi and Panjabi are inherited from Old Indo-Aryan. At the very first sight it would appear that the original sound-system of Indo-Aryan in general has not been much interfered with either by losses in Middle Indo-Aryan or by gains in the present stage. But when we look at the words, the original OIA words and those derived therefrom coming down to Hindi and Panjabi, we find that the

phonetic changes undergone by OIA words resulting into the development of various Middle Indo-Aryan languages and thereafter into the enormous variety of New Indo-Aryan, have by no means been small. This indeed is a very disturbing factor in the phonology of Indo-Aryan. A comparative study of the different New Indo-Aryan languages with regard to their behaviour in effecting a particular sound-change—preserving or simplifying a particular sound or group of sounds—will reveal many interesting facts. These facts will be important for the historical linguistics also. As we have little knowledge about the actual Middle Indo-Aryan dialects spoken in the areas where the New Indo-Aryan languages are spoken today, a study of this kind will be much helpful in reconstructing the Middle Indo-Aryan dialects, and many missing links may be established through the discovery of hitherto unknown facts. At present we have to restrict our study to Hindi and Panjabi only.

Treatment of OIA Vowels in Closed Syllables

(a) SHORT VOWELS

85. The OIA short vowels a^3 , i , u , in the accented syllables have come down unchanged to Middle Indo-Aryan. But in New Indo-Aryan these vowels have suffered changes both in quantity and quality. Of all the NIA languages Panjabi is the most archaic in preserving these sounds in closed syllables. It is here that Hindi together with Gujarati, Rajasthani, Marathi, Bengali, etc. differs the most from Panjabi and other North-western languages. There are very few exceptions where the original vowel-length of the OIA a , i , u , has not been preserved in Panjabi, and these exceptions in absence of a satisfactory explanation may be regarded as loans from Hindi or the result of Hindi influence.

2. From Pāṇini's last sūtra अ अ इति in the *Aṣṭādhyāyī* we know that the short vowel अ $[a]$ had two pronunciations in ancient time, one the older, more open $[a]$ as the proper short of the long vowel आ $[a:]$, the *visarga* or open pronunciation, and the other a *samvṛta* or close pronunciation. In actual pronunciation it was a *samvṛta* or close अ $[ʌ]$ in pāṇini's time, but for grammatical purposes it was considered to be a *visarga* or open अ $[a]$. It is this close $[ʌ]$ which has come down to NIA, and as such should not be considered to be the corresponding short of the long vowel आ $[a:]$.

Thus we have

Panjabi a [ʌ] = OIA. a [ʌ]

Panjabi		OIA
agg	'fire'	agni
kann	'ear'	karna
kamm	'work'	karma
satt	'seven'	sapta
hatth	'hand'	hasta
sapp	'snake'	sarpa
dand	'tooth'	danta
cann	'moon'	candra

Panjabi i = OIA. i

Panjabi		OIA
itt	'brick'	iṣṭaka:
sikkh	'advice'	śikṣa:
mitt	'friend'	mitra
biṭṭh	'faeces'	viṣṭha:
chikk	'sneeze'	chikka:
ciṭṭa:	'white'	citra + ka
pinna:	'ball'	piṇḍa
pippal	'pipal tree'	pippala

Panjabi u = OIA. u

Panjabi		OIA
putt	'son'	putra
kukkh	'womb'	kukṣi
sukka:	'dry'	śuṣka
sunḍh	'dry ginger'	śunṭhi
khunḍha:	'blunt'	kuṇṭha
muṭṭh	'fist'	muṣṭi

86. But in Hindi, most of the corresponding words show change in vowel-length, i.e. a, ī, u become [a:, i:, u:] respectively: some, however, show change in quality also, as [u] becoming [o] in *kokh*, *soṭh*, etc. Panjabi *khunḍha:* and *pinna:* have no corresponding words in Hindi, but in *ciṭṭa:* 'white' and *muṭṭhi:* 'fist' which are identical in both the languages, Hindi, too, retains the original

vowel-length. Such words together with other words like *sac* 'truth', *kal* 'yesterday', *nath* 'nose-ring', *ratti*: 'a red berry used as a weight', *rakh* 'to keep', etc. (<OIA. *satya*, *kalya*, *nasta*, *raktika*, *raks*, etc. respectively) which are almost identical with P. *sacc*, *kall*, *nath*, *ratti*, *rakkh*, etc. and preserve the original short vowel may be regarded as loans from Panjabi, as retention of the original short vowel in all these cases is against the genius of Hindi.³

87. Whereas the preservation of the OIA short vowels before long consonants or consonant groups is a regular phenomenon in Panjabi, there being a few exceptions only, Hindi, as a general rule, substitutes long vowels for the short ones, and this lengthening of the short vowels is done at the cost of shortening the following consonants. Thus, in Hindi, we have OIA [a] or [ʌ] changed to [a:], OIA [i] changed to [i:], and OIA [u] changed to [u:]. This change and the simplification of the MIA assimilated consonants may be seen side by side in the following examples :

Hindi		MIA	OIA
ha:th	'hand'	hattha	hasta
a:g	'fire'	aggi	agni
ka:m	'work'	kamma	karma
sa:t	'seven'	satta	sapta
mi:t	'friend'	mitta	mitra
chik̄k	'sneeze'	chikka	chikka:
put	'son'	putta	putra
sukha:	'dry'	sukka	śuṣka
du:dh	'milk'	duddha	dugdha

88. The few cases where the originally short vowels have not been preserved in Panjabi, rather they have been lengthened, shall have to be considered as recent borrowings from the neighbouring dialects of Hindi with opposite tendencies. The explanation offered by Dr. Jain⁴ with regard to words with long [a:] that they may have come from *vr̥dhhi* form is hardly satisfactory. It would be rather going too far to imagine that words like *vart* 'way' (H. *baṭ*), *va:g* 'rein' (H. *ba:g*), *kha:j* 'itch', *hatthi*: 'elephant' (H. *baṭhi*), etc. have come from the non-existent *vr̥ddhi* form of the Sanskrit *vartma*, *valga*, *kharju*, *hasti*, etc. respectively. These words

3. Chatterji: *Indo-Aryan and Hindi*, p. 114.

4. *Phonology of Panjabi*, Lahore, 1934, § 25.

were probably borrowed from Hindi, at a time when there already existed such words in Panjabi as were phonetically similar to those expected from above mentioned Sanskrit words. But for this borrowing the words *vatt*, *vagg* and *hatthi*: used for *ridge*, *herd* and *handle* respectively, would have been confused with the phonetically similar words expected from Skt. *vartma*, *valga*: and *hasti*: respectively.

89. The long [a:] in *attthan* 'even-tide' (Skt. *astamana*), a word peculiar to the Ludhiani dialect of Panjabi, is, however, difficult to explain, but the word *ga:ggar* 'water-vessel' (<Skt. *gargara*), may be a loan from Hindi.

We have both *latth* 'axle, stick' and *latthi*: 'stick' (<* *latthi* (Skt. *yaṣṭi*) in Panjabi. Hindi also has both, one with the short vowel and the other with the long one. In fact, this is the case where both the languages borrow from each other.

The exceptions *lagge* 'near' (<Skt. *lagne*), *lagga*: 'a wound in horse-back', *lag* 'infection' (<Skt. *lagna*) in Panjabi, and *lag-bhag* 'almost', *alag* 'separate' (<Skt. *alagna*), *lag kar* 'having attached one-self to' (<Skt. *lag+y*) in Hindi appear to be the result of mutual influence or borrowing.

90. There are some exceptions which show change of the OIA short[a] or [ʌ] in the closed syllables to [i, u, e], and sometimes to [æ] in both the languages. Thus we have :

a > i

P. *piñjra*:, H. *piñjar*, *piñjra*: 'cage' (Skt. *pañjara*) ;

P. *imli*:, H. *imli*: 'tamarind' (Skt. *amlika*:) ;

P. *viñga*: 'crooked', but H. *bā:ka*:, also *bi:ka*: (Skt. *vakra*)

P. *picche*, H. *picche* 'after' (Skt. *paścāt*, Pkt. *paccha*:).

a > u

P. *uñgal*, *uñgli*:, 'finger', H. *uñgli*: (Skt. *aṅguli*);

P. *mucch*, H. *mū:ch* 'moustache' (Skt. *śmaśru*:);

P. *kuñj*, but H. *kēculi*: 'snake's slough' (Skt. *kañchuka*)

P. *cuñj*, 'beak', but H. *cōc* 'beak' (Skt. *cañcu*).

a > e

P. *sej*, H. *sej* 'bed' (<Skt. *śayya*:) ;

P. *vel*, H. *bel* 'creeper' (Skt. *valli*:).

a > æ

P. *pænti*:, H. *pæti*: 'thirty five' (Skt. *pañcatrimśat*);

P. *sænti*:, H. *sæti*: 'thirty seven' (Skt. *saptatrimśat*).

91. The change $a > i, u$ in cases like H. P. imli:, ūgli:; P. mucch, kuñj may be due to the influence of [i] or [u], as the case may be, in the following syllable in OIA words, as in Prakrits also we find $a > u$ generally due to the presence of a labial sound in a neighbouring syllable.⁵ But for the changes shown by other words like piñjra:, viṅga:, picche, pāeti:s, sāeti:s, etc. no satisfactory explanation can be given.

The change $a > i$ in piñjra: and picche may be explained as due to the influence of the following palatal and in support thereof one may quote P. mijjh, H. miṃj 'marrow' (Skt. majja:), for which we have miñja: in Pāli and mimja: in AMg.⁶ But we may as well assume the change $a > i$ in piñjra: due to the following nasal as in P. viṅga: <Skt. vakra through Pkt. vanka.

Similarly in P. pāeti: H. pāeti:s, 'thirty five' (Skt. pañcatrimśat, Pkt. pannatisam, panatisam) the change $a > æ$ may be due to the following nasal. It should be noted that the change $a > æ$ before nasal is frequent in Western Panjabi. For example, we have pāc for EP. and H. pañc 'arbitrator', kænṭha: for EP. and H. kanṭha: 'necklace' (<Skt. kaṇṭhaka), pāñchi: for EP. and H. pañchi: 'bird' (<Skt. pakṣi:) etc. in Western Panjabi. Thus in Panjabi we have alternative forms with 'a' and 'æ'. The Hindi words with 'æ' should, therefore, be the result of Panjabi influence. It may however be interesting to note that whereas Hindi has pāeta:li:s 'forty five' and sāeta:li:s 'forty seven' the latter has curiously enough forms with 'a' only as panta:li: and santa:li:.

92. The lengthening of short [i] in Panjabi, in the few cases where it is met with, should generally be considered to be the result of Hindi influence. But some words may be recent loans from Hindi. Thus P. nīd 'sleep' and ji:bh 'tongue' are identical with H. nīd and ji:bh. niṇdar and an older form nindra: are also found in Panjabi. Of the two forms nīd and niṇdar, the former may be a loan from Hindi, while the latter showing *swarabhakti* in the second syllable is a Panjabi form⁷ influenced by Hindi in the matter of lengthening the vowel in the preceding syllable. P. ji:bh may also be a loan from Hindi. But P. ṭiṭ <Skt. tikta shows the influence of H. tiṭta: 'pungent'.

5. Pischel: *Grammatic der Prakrit Sprachen*, 104.

6. Ibid 74, 101.

7 cf. WP. puttār 'son', EP. putt (Skt. putra); WP. pattār 'leave', EP. patt (Skt. patra).

93. The change $i > e$, though rare, is found, in both the languages. Thus we have sem 'flat bean', (Skt. śimba:), kessu: 'kind of flower' (Skt. kimpśuka) common to Hindi and Panjabi, but H. semal, P. simbal (<Skt. simbala). In all these cases a nasal follows [i]; hence the change may be said to be due to the influence of the following nasal. In Marathi semdur (Skt. sindhu:~) 'red vermillion' and E. H. bedi: 'round decorative mark on ladies' forehead' (Skt. vindu 'drop') also, the change occurs under the same circumstances. The Prakrit grammarians⁸, too, have noted this change before consonant groups⁹, though such groups may not necessarily be made up of nasal plus consonant.

94. In P. bund and būd (optionally bind also), H. būd (Skt. vindu, Pkt. vindu:), the change $i > u$ or ui , which is very rare, may be due to the influence of [u] in the following syllable. The optional form with long [u:] in Panjabi is due to the result of Hindi influence.

95. The change $u > o$, though also rare, is more common in Hindi than in Panjabi. The Prakrit grammarians, too, have noted this change.¹⁰ The words pōṭṭha: 'book' (Pkt. potṭhaa, Skt. pustaka), pokkhar 'lake' (Śaur. Pkt. Pōkkhara, Skt. puṣkara) and koṛh 'leprosy' (Skt. kuṣṭha) in Panjabi are identical with Hindi poṭha:, pokhar and koṛh with a very slight difference in pronunciation. But we have also H. kokh, P. kukkh 'womb' (Skt. kuṣi); H. okhal, P. ukkhal 'mortar' <*urkhala (Skt. ulu:khala), H. sōṭh, P. sunḍh 'dry ginger' (Skt. śunṭhi). From the above comparison it may be deduced that this change belongs more properly to Hindi than to Panjabi.

96. The lengthening of [u] before consonant groups is a rare phenomenon in Panjabi. The few exceptions that we have may be explained as loans from Hindi, e.g., cf. P. pu:ch 'tail' (Skt. pucch), ū:ṭh 'camel' (Skt. uṣṭra), ju:ṭh 'leavings' and jhu:ṭh 'lie' (Skt. juṣṭa); H. pū:ch, ū:t, ju:ṭha: and jhu:ṭh.

Long Vowels :

97. The OIA long vowels [a:, i:, u:, e, o] before consonant groups were reduced to corresponding short vowels in Middle Indo-

8. Pischel: *Grammatik der Prakrit Sprachen*, 119.

9. According to Bloch, the change can more properly be explained by vidhi forms; thus *saimbya* > sem, *kaimśuka* > kessu, etc. (80).

10. Pischel: *Grammatik der Prakrit Sprachen*, 125.

Aryan.¹¹ Thus the Old Indo Aryan words like *ma:rga*, *ji:na*, *cu:rna*, etc. became *magga*, *jinna*, *cunna*, etc. in Pali. We, however, notice a few exceptions to this general rule in words like *di:gha* (Skt. *di:rga*), *lakha:* (Skt. *laksā:*), etc. where the vowel has again been lengthened. This exceptional lengthening of the vowel along with the simplification of consonant-groups becomes a general rule in most of the New Indo-Aryan languages, and in Hindi, in which this tendency is very prominent, we find that all distinction of the original vowel length before consonant-groups has been lost. As Panjabi retains the original vowel-length before consonant-groups it may be assumed that long vowels before consonant-groups were not shortened in the Prakrit of Panjabi. Thus, whereas Hindi long vowels are the result of lengthening the MIA short vowels, original or modified, before consonant-groups, Panjabi long vowels may be said to be representing the original Old Indo-Aryan long vowels.

Examples :

Hindi		MIA	Sanskrit
ka:j	'work'	kajja	kārya
ba:t	'matter'	vatta:	var̥ta:
ti:kha:	'sharp'	tikkha	tikṣṇa
su:t	'thread'	sutta	su:tra
u:n	'wool'	unna	u:r̥na
cu:na:	'lime'	cunna	cu:r̥na
khēt	'field'	khētta	kṣetra
bēt	'cane'	vētta	vetra
oṭh	'lip'	ōṭṭha	oṣṭha

Panjabi		Panjabi Pkt.	Sanskrit
ka:nna:	'reed'	*ka:nna	ka:n̐da
da:kh	'grape'	*da:kkha	dra:kṣa:
ka:ṭh	'wood'	*ka:ṭṭha	ka:ṣṭha
su:t	'thread'	*su:tta	su:tra
cu:nna:	'lime'	*cu:nna	cu:r̥na
jeṭṭha:	'elder'	*jeṭṭha	jyeṣṭha
koṭṭha:	'room'	*koṭṭha	koṣṭha

98. We, however, have Panjabi words, not a few in number, where the original vowel-length has not been preserved ; e.g.

11. Fischel : *Grammatik der Prakrit Sprachen*. 83, 84.

Panjabi		MIA	Sanskrit
tikkha:	'sharp'	tikkha	ti:kṣṇa
sunṇ	'void'	sunna	śunya
mull	'price'	mulla	mu:lya
unn	'wool'	unna	u:ṭṭa
kattak	'name of a month'	kattika	ka:rtika
kumma:	'tortoise'	kumma	ku:rma
punnēā:	'full moon night'	punnima	pu:nima:
maṅgana:	'beg'	magga	√ma:rga
alla:	'wet'	alla	a:rdra

Most of these words have [r] as the first member of the consonant group, and it appears that the shortening of OIA long vowels before r+ consonant groups was a regular phenomenon in the Panjabi Prakrit. The other cases, where there is no [r] forming conjunct with the following consonant, may be regarded as loans in the Prakrit stage.

H. mābhga: < mahāga: 'costly, dear' < MIA mahagga < Skt. maharṅga, on the other hand, may be a loan from Panjabi.

99. The OIA diphthongs [ai] and [au] were reduced to [e] and [o] in Middle Indo-Aryan¹² Hence we have H. pota:, P. potta: 'grandson' (Skt. pautra), H. eka:, P. ekka: 'unity' (Skt. aikya), H. and P. cet 'name of a month' (Skt. caitra), through the common Middle Indo-Aryan reduction of these diphthongs. But the MIA e, o before long consonants must have been short, i.e. [ĕ, ō] in the parent Prakrit of Hindi and in many other Middle Indo-Aryan dialects except the parent Prakrit of Panjabi. These were again lengthened in Hindi to compensate the loss caused by the simplification of long consonants. Panjabi, on the other hand, had no such problem. The MIA long consonants following [e, o] remained in Panjabi so long as the final vowels remained intact; cf. cet < cetta < Skt. caitra; potta: < pottaā < pautraka (Skt. pautra), etc.

Treatment of OIA Vowels in Open Syllables

100. The preservation of OIA vowels, short and long, except [ai, au] in the accented open syllables is common to Hindi and Panjabi:

12. Ibid. 60, 61 A.

Examples :

a [ʌ]=OIA a [ʌ]

H. kare	P. kare	'he may do'	(Skt. karoti)
H. għara:	P. għara:	'pitcher'	(Skt. ghaṭa)
H. kaṛa:	P. kaṛa:	'bracelet'	(Skt. kaṭaka)

[a:] = OIA [a:]

H. gā:v	P. grā:	'village'	(Skt. grāma)
H. a:las	P. a:las	'lethargy'	(Skt. a:lasya)
O.H. bisas:	P. vasa:h	'trust'	(Skt. viśva:sa)
H. pa:ni:	P. pa:ni:	'water'	(Skt. pa:ni:ya)
H. ba:rah	P. ba:rā:	'twelve'	(Skt. dva:daśa)
H. bha:i:	P. bha:i:	'brother'	(Skt. bhra:tr)

[i] = OIA [i]

H. sir	P. sir	'head'	(Skt. śiras)
H. til	P. til	'seasam seed'	(Skt. tila)
H. hit	P. hit	'interest'	(Skt. hita)

[i:] = OIA [i:]

H. khī:r	P. khī:r	'milk-rice dish'	(Skt. kṣī:ra)
H. jī:v, ji:	P. ji:	'living being'	(Skt. jī:va)
H. hī:n	P. hī:na:	'low'	(Skt. hī:na)
H. kiṛa:	P. kiṛa:	'insect'	(Skt. kiṭaka)

[u] = OIA [u]

H. khur	P. khur	'hoof'	(Skt. kṣura)
H. guṇ	P. guṇ	'quality'	(Skt. guṇa)

[u:] = OIA [u:]

H. dhu:l	P. dhu:r	'dust'	(Skt. dhu:li)
H. su:l	P. su:l	'thorn'	(Skt. śu:l)

[e] = OIA [e]

H. des	P. des	'country'	(Skt. deśa)
H. devar	P. deor	'husband's younger brother'	(Skt. devara)

[o]=OIA [o]

H. ghoṛa:	P. ghōṛa:	'horse'	(Skt. ghoṭaka)
H. rona:	P. rona:	'weeping'	(Skt. rodanam)
H. thoṛa:	P. thoṛa:	'little'	(Skt. stoka)

101. Exceptions are rare in Hindi, whereas we see the original [e, o] before a nasal consonant or an aspirated stop changed to [i, u:] respectively, in a very regular manner in Panjabi.

Examples :

- P. ri:n 'particle' < OIA. reṇu
 P. mī:h 'rain' < OIA. megha, but H. mēh
 P. līh 'line' < OIA. lekha:, but H. rekh 'line' < OIA rekha:
 P. ku:la: 'tender' < OIA. komala
 P. jum 'life, birth' < OIA. yoni

102. The MIA [e, o] < OIA [ai, au] in the accented open syllables have been preserved equally by Hindi and Panjabi, e.g.

- H. geru:, P. geri: 'red earth' < MIA. geria, gerua < Skt. gairika
 H. gora:, P. gora: 'white' < MIA. gora-a < Skt. gaura + ka
 H. cor, P. cor 'thief' < MIA. cora < Skt. caura

H. pus 'name of a month' < OIA. pauṣa shows that the parent Prakrit of Hindi did not have [o] in this case; cf. P. poh. [e, o] in H. tel 'oil', joban 'youth' come from MIA [ě, ō] < OIA. [ai, au] because the consonants these ě, ō preceded were long or geminated in the parent Prakrit of Hindi (thus, tel < tēlla < * tailya (Skt. taila), joban < jōbbana < yauvana).

103. The vowel [ɾ] was pronounced variously in the ancient times as it is today in the different parts of the country. In MIA, it was completely lost, and we find instead three different developments of this sound: ɾ > a, i, u.

All these three different developments in the Middle Indo-Aryan stage have been more or less retained by Hindi and Panjabi. The former, however, has lengthened these modifications of ɾ before long consonants in MIA.

104. The retention of MIA a, i, u < OIA ɾ in the accented open syllables, which is common to Hindi and Panjabi, may be seen in the following examples :

- H. dhaṛ, P. dhar 'trunk' < MIA. *dhaḍa (Skt. dhṛta)
 H. saṛak, P. saṛak 'road' < MIA. *saḍaka < *sṛtaka (Skt. sṛta + ka)
 H. hia: or hiya:, P. hia: 'heart' < MIA. hia (Skt. hr̥daya)
 P. tiha: 'thirst' < MIA. tiha (Skt. tṛṣa:)
 H. rut, P. rut 'season' < MIA. *rutu, ruta (Skt. ṛtu)
 H. sunē, P. sunē 'he may hear' < MIA. sunai (Skt. śṛṇoti)

In H. ghi: 'clarified butter' < MIA. ghia (ghiu also) < Skt. ghṛta, the MIA [i] forming vowel-group with the final [a] has become long through contraction. In Panjabi, on the other hand, the vowel-group [iu] remains in Western Panjabi, but has developed into [ěo] in Eastern Panjabi; thus W.P. ghiu, E.P. ghěo. Similarly E.P. pěo, W.P. piu 'father' < MIA. piu < Skt. pitṛ. Doābī Panjabi has ghe, pe which show contraction of E. P. [ěo] into [e].

105. The initial [r̥] appears as [ri] in Prakrits.¹³ Hindi and Panjabi both retain this MIA [ri], e.g. Skt. ṛṣi > Śaur. riṣi > H. riṣi, P. rikhi: 'sage'; Skt. ṛpa > riṇa > P. rin, H. rin 'debt'. In closed syllables, however, the vowel [i] in [ri] becomes long in Hindi, e.g. H. riḥ, P. ricch 'bear' < MIA. ṛiccha < Skt. ṛkṣa.

106. r > ri occurs medially also, e.g. Skt. amṛta > H., P. amrit 'nectar' (Old H. ami: < MIA. amia). This change seems to be a recent development due to the pronunciation of [r̥] as [ri].

107. r > ir is a recent development. We have both kripa: and kirpa: 'kindness' (Skt. kṛpa:; Maha. kiva:) in Hindi, but kirpa: only in Panjabi. The other examples are H., P. kiram 'worm' < Skt. kṛmi; H., P. kirpa:n 'sword' (Skt. kṛpa:ṇa) etc. As a matter of fact, the change is more frequent in dialects than in the literary speech of Hindi. Panjabi prefers [ir] to [ri].

Treatment of OIA Vowels in Unaccented Syllables

The loss and the contraction of the final vowel :

108. The loss of the final unaccented vowel is common to Hindi and Panjabi. In the history of Indo-Aryan we find a gradual decay

13. Vr. 1'30; Can. 2'5; H. C. 1'140; Kr. 1'28.

of the final vowels, long vowels becoming short, and then, confused with the original short vowels, weakening to the extent of elision. Thus we have Skt. *putrah*, Pkt. *putto* > Apabh. *puttu* > P. *putt* and H. *put* 'son'; Skt. *lajja*, Pkt. *lajja* > Apabh. *lajja* > P. *lajj* and H. *la:j* 'modesty'.

109. The final short *i, u* of the Apabhramśa stage occurring after a consonant are found in old Hindi and Panjabi upto the seventeenth century. In Panjabi we still hear, though unfrequently, an extremely short non-syllabic [ə] at the end of a word. It is generally heard after long consonants when preceded by a short vowel.

But these vowels preceded by another vowel have coalesced with the latter to form a single long vowel in Hindi and Panjabi, e.g. Apabh. *amiu* > H. *ami*: 'nectar'; Apabh. *ma:liu* > H. and P. *ma:li*: 'gardener'; Apabh. *ghodau* > H. *gho:ra*, P. *gho:ra*: 'horse'. The vowel before the final one in the Apabhramśa words quoted above is generally due to the result of eliding an intervocal consonant in Middle Indo-Aryan.

110. The elision of the final vowel after a consonant or consonants, and its contraction after a vowel being the general rule, we have two types of stems developed in Hindi and Panjabi—(i) consonant-ending, and (ii) vowel-ending. The historical development of both these classes may be seen in the following examples :

Consonant endings through loss of final vowels :

H. *sa:t*, P. *satt* < Apabh. *satta* < Pkt. *satta* < OIA. *sapta* 'seven'.

H. *parakh*, P. *parakh* < Apabh. *parakkhā*, *parikkhā* < Pkt. *parikkha*: < OIA. *parikṣa*: 'test'

H. *la:j*, P. *lajj* < Apabh. *lajja*, Pkt. *lajja*: < OIA. *lajja*: 'modesty'.

H. *nī:d*, P. *nīd* < Apabh. *nidda*, Pkt. *nidda*, *nidda*: < Skt. *nidra*: 'sleep'.

H. *a:g*, P. *agg* < Apabh. *aggi*, Pkt. *aggi*: < OIA. *agniḥ* 'fire'.

H. *bahin*, P. *bhæṇ* < Apabh. *bahini*, Pkt. *bahini*:, *bhaiṇi* < OIA. *bhagini*: 'sister'.

H. *ra:t*, P. *ra:t* < Apabh. *ratti*, Pkt. *ratti*: < OIA. *ra:triḥ* 'night'.

H. *ra:s*, P. *ra:s* < Apabh. *ra:si* < OIA. *ra:śiḥ*, 'heap'.

H. *ga:bhin*, P. *gabbhaṇ* < Apabh. *gabbhini*, Pkt. *gabbhini*: < OIA. *garbhini*: 'pregnant'.

- H. agar, P. agar < Apabh. agaru < OIA. aguru 'essence'.
 H. hīṅ, P. hīṅ < Apabh. hīṅgu < OIA. hīṅgu 'asafoetida'.
 H. sa:s, P. sās < Apabh. sassū, Pkt. sassu: < OIA. śvaśru: 'mother-in-law'.
 H. ghar-ghar, P. ghar-ghar < Apabh. gharī-gharī < OIA. gr̥he-gr̥he 'in every house'.
 P. kol 'near' < Apabh. kodī, Pkt. koḍe < OIA. kroḍe 'in lap'.
 H. pa:s < Apabh. passi < Pkt. passe < OIA. pa:śve, 'near'.
 H. put, P. putt < Apabh. puttū < Pkt. putto < OIA. putrah 'son'.

Long vowel endings through contractions :

- H. ghorā:, P. ghorā: < Apabh. ghodau, Pkt. ghodao < OIA. ghoṭakah 'horse'.
 H. gorā:, P. gorā: < Apabh. goraū, Pkt. gorao < OIA. gaura (kah) 'fair, white'.
 H. motī:, P. mottī: < Apabh. mōttiā, Pkt. mōttia < OIA. mauktikam 'pearl'.
 H. maṭī:, mīṭī: also, P. mīṭī: < Apabh. maṭṭiā < Pkt. maṭṭia: < OIA. mṛttika: 'earth'.
 H. bhaī:, P. bhaī: < Apabh. bhaīā, Pkt. bha:ia < OIA. bhraṭṭika 'brother'.
 P. sui:, P. sui: < Apabh. suria, Pkt. suria: < OIA. su:cika: 'needle'.

Vowels in non-final unaccented syllables :

111. The initial unaccented vowels have suffered more in Panjabi than in Hindi. Some words, which are common to both the languages, had their original initial vowels reduced or dropped in the MIA stage, e.g. H. and P. riṭṭha: < MIA. riṭṭha < Skt. ariṣṭa; H. bhiṭṭha:, P. bhiṭṭha: < MIA. √bhiṭṭha-bhiṭṭha < Skt. abhi√añj; H. and P. bæṭṭha: < MIA. vaiṭṭha < Skt. upa-viṣṭa.

112. The following examples will show that the reduction of an initial [ʌ] to the neutral vowel [ə] is common to Hindi and Panjabi. In the colloquial Panjabi it is further reduced to become quiescent.

Skt. aṅguṣṭha > H. ṭguṭṭha: P. ṭguṭṭha:;¹⁴ 'thumb'; Coll P. guṭṭha:

14. The medial long vowel before consonant-groups is due to the influence of Hindi.

Skt. agniṣṭha > H. āgīṭhi; P. āgīṭhi: 'fire-place', Coll. P. giṭṭhi:

Skt. akṣavaṭa > H. ākhaṛa; P. ākhaṛa: 'arena', Coll. P. khaṛa:

Skt. annaḍya > H. ānaḥ (dialectically naḥ also), P. ānaḥ, Coll. P. naḥ: 'grain'.

Skt. alaḥbu > H. lauki: 'bottle gourd', but P. all.

Skt. andhakara > H. ādhera; P. ādhera; nhera: 'darkness'.

In P. hup 'now' <Skt. adhuna; the initial vowel has completely disappeared.

Skt. agra* ? > P. āgahā; Coll. P. gahā: 'forward', but H. aḥge.

This treatment of initial [ʌ] is met with in Perso-Arabic loans also where Perso-Arabic [i] changes to Panjabi [ʌ] which then, is reduced to [ə]. In the colloquial speech the vowel disappears altogether. Thus Arabic in'a:m > P. āna:m, Coll. P. na:m; 'prize'; Arab. 'ilaḥ > P. ālaḥ, Coll. P. laḥ: 'treatment'.

The reduction of OIA initial [a:] to [ə] is equally frequent in Hindi and Panjabi, but the latter sometimes drops the resultant [ə]; e.g.

Skt. aṣaḍha > H. āsaḥ; P. haḥ (<āsaḥ) 'name of a month'.

Skt. aścarya > H. ācraḥ; P. ācarḥ, carḥ 'wonder'.

Skt. ākhyama > P. ākhaḥ: 'proverb'.

113. In Persian loan words also, the original [a:] is reduced to [ə] in Panjabi. In the colloquial speech it is generally dropped altogether. Thus Pers. āra:m > P. āra:m, Coll. P. ra:m 'ease' 'comfort'; Pers. āsa:n > P. āsa:n 'easy'; Pers. āva:z > P. āva:z, Coll. P. vaḥ: 'voice', etc.

114. While Hindi and Panjabi equally preserve the initial i < OIA e, the latter sometimes changes it to [ə], or drops it altogether in the colloquial speech, e.g. Skt. ekatrimśat > Pkt. ākkaṭṭisa > H. ikattis; P. ikatti; Coll. P. ākatti; katti: 'thirty one'; Skt. ekastha > MIA. ākkaṭṭha > H. ikatṭha; P. ikatṭha; Coll. P. ākatṭha; katṭha: 'together'; MIA. *ekkalla: > P. ikalla; Coll. P. ākalla; also kalla: 'alone'. [ə] in H. [ākela:], which is irregular, is however difficult to explain.

115. The initial [u] has generally been retained in both the languages, but Panjabi drops it also not unfrequently, e.g.

Skt. *udvartana* > H. *ubṭan*, but P. *vaṭna*: 'unguent'.

Skt. *uttha:payati* > H. *uṭha:na:*, P. *uṭha:na:* 'to lift'.

Skt. *utta:rayati* > H. *uta:rna:*, P. *uta:rna:* 'to get alighted'.

Skt. *ut + ?* > P. *uta:bā:*, Coll. *ta:bā:* 'upward' also.

Treatment of MIA Vowels in Hiatus

116. OIA intervocal unvoiced stops had become voiced in Early Middle Indo-Aryan. The transitional Prakrit stage developed a spirant pronunciation¹⁵ of the voiced stops except [d, dh] which latter on changed to [ɹ, rh] respectively, probably by the time New Indo-Aryan came into being, if not earlier. The spirantised voiced stops, being open or laxly pronounced later dropped off from the speech. Thus in Mahārāṣṭri Prakrit we notice that the unaspirated stops [k, g, c, j, t, d, p, b] were completely elided and the aspirated stops [kh, gh, th, dh, ph, bh] were reduced to [h], the stop-element being lost. The loss of intervocal consonants, gave rise to vowel-groups or hiatus in Middle Indo-Aryan.

Introduction of y, w-glides and their various effects :

117. Hindi and Panjabi treat these MIA vowel-groups in many cases the same way, e.g. vowel-groups in both the languages introduced a slight y or w-glide at a very early stage, which preserved the vowels in hiatus for some time, but later on caused their change or more properly their contraction into a single long vowel [e], [æ] or [ɔ].

Examples :

H. *kela:*, P. *kella:* < ¹⁵ka[-y-]ala < ka-ala < kadala (Skt. *kadali:*) 'plantain'.

H. *ber*, P. *ber* < ba [-y-]ara < baara < Skt. *badara* 'jujube'.

H. *cheri:* 'goat', P. *chella:* 'kid' < cha[-y-]ala < chaala < Skt. *chagala* 'he-goat'.

H. *bachera:*, P. *vachera:* < vaccha[-y-]ara < vacchaara < Skt. *vatsatara* 'colt'.

H. *ādhara:*, P. *hanera:* < annha[-y-]ara < andhaara < *andhakara (Skt. *andhaka:ra*) 'darkness'.

H. *kasera:*, P. *kasera:* < kamsa [-y-]ara < kamsaara < OIA. *kamsa-kara 'brazier'.

15. Chatterji: *Origin and Development of the Bengali Language*, pp. 252-256.

16. Some Prakrits seem to have already developed contraction; Pkt. *kela*, ther. Pischel 166.

H. hatheli:, P. hatheli:<hattha [-y-]ala<hatthaala <Skt. hasta-tala, 'palm'.

H. bæŋ 'utterance', P. væŋ 'wail' <va[-y-]ana<vaana<Skt. vacana 'utterance'.

H. ræn, P. ræn>ra [-y-] ani<raani<Skt. rajani: 'night'.

Panjabi has a longer list of words where MIA [aa] with a y-glide has become [e] or [æ].

118. In MIA vowel-group [aa:] also, Panjabi seems to have inserted y-glide which is responsible for developing it into diphthong [ɛa:]. Thus P camɛa:r<camma[-y-]a:r<cammaa:ra<Skt. carmakā:ra 'shoe-maker'; ghumɛa:r [kum'ɛa:r]<kumha [-y-] a:r<kumhaa:ra <Skt. kumbhaka:ra 'potter', etc. where y-glide causes the change ay>e; but also luha:r 'black-smith' <lohāa:ra (not loha [-y-] a:ra which would have given lohear:<Skt. lohaka:ra. But the first element of this diphthong has now developed into semi-vowel 'y', probably due to the shift of accent, making [cɔmya:r], [k'um'ya:r], etc.

Hindi in this case has the exceptional tendency of contracting the vowels into one single long [a:] instead of introducing a y-glide. Thus H. cama:r 'shoe-maker', kumha:r 'potter', suna:r 'gold-smith', etc. H. ādhiya:ra: 'darkness'<Skt. andhaka:ra, however, is the result of y-glide influencing the preceding vowel.

119. Usually y, w-glides after a long vowel are retained by Hindi, e. g. H. keva:ra:<ke [-w-] a:ra:<keaa (ḍa)<Skt. ketaka, H. ba:wla:<ba: [-w-] ala:<ba: [-w-] ula<va:ula<Skt. vātula 'mad'; H. nariyal<nari [-y-] ala<nariela<Skt. nārikela 'coconut', etc.

Sometimes the glide is seen after a short vowel also; e. g. H. siya:r (sya:r also) <si [-y-] a:ra, <si [-y-] a la<sial<Skt. śrīga:la 'jackal', but the preceding vowel is optionally dropped off.

Long vowels before glides were sometimes reduced to short vowels which likewise dropped off leaving the semi-vowels y, w alone, thus H. kya:ri.>ki-y-a:ri:<ke[-y-]a:ra<Pkt. kea:ra<Skt. keda:ra 'bed', H. gwa:la:<guwa:la:<go[-w-]a:la<Pkt. goa:la<Skt. gopa:la 'cowherd', etc.

Panjabi, on the other hand, rarely shows y, w-glides under such conditions. Thus P. kēora: <ke[-w-] a:ra, di:va:<di: [-w-] a<di:a <di:ba<Skt. di pa, 'earthen-lamp', ra:y<ra: [-y-] a<raa<Skt. raja:

'king' but bōla: < baula: < ba:ula (Skt. *vaṭula*); narel < nariela, etc. While in H. *su:ar* < *su:* [-w-] *ar* < *su:ara* < *su:gara* < *su:gara* < Skt. *śu:kara* 'hog' the vowel-group *au* in hiatus has been preserved through *w-glide*, P. *su:r* < *su:ar*, being without *glide*, has contracted the vowels. Similarly, whereas H. *gha:yal* < *gha:* [-y-] *ala* < *gha:ila* < *gha:illa* (Skt. *gha:ta-*) results from *y-glide*, the simple long vowel [æ] in P. *ghæl* [k'æl] < *gha:il* < *gha:-a-ila* has developed from vowels in hiatus through the stage of diphthong.

Vowels in hiatus > diphthongs sometimes simple vowels :

120. Another treatment of vowels in hiatus common to Hindi and Panjabi is noticed in that they become diphthongs, several of which further develop into simple long vowels, e.g., H. and P. *cōth* 'fourth day' < *c^ōth* < *cauth* < Pkt. *ca-uttha* < Skt. *caturtha*, H. and P. *cōk* 'open square' < *c^ōk* < *cauk* < Pkt. *caukka* < Skt. *catuska*; H. and P. *bæth* 'sit' < *b^æth* < *baith* < Pkt. *ba-iṭṭha* < Skt. *upaviṣṭa*; H. and P. *pōna:* 'three quarters' < *p^ōna:* < *pauna:* < *pa:una:* < Pkt. *pa:ona* < Skt. *pa:ona*, etc., etc. In all these cases, vowels in hiatus become diphthongs and then develop into simple long vowels. Similarly P. *ḍæn* 'witch' where [æ] develops through the stage of diphthong *^æ* < *ai*, *ai*. In H. *ḍa:in* (also W.P. *ḍaiṇ*) < *ḍa:-ini* < Skt. *ḍa:kini*, however, the diphthong does not develop into a simple vowel.

Panjabi has a large number of words where diphthong is the result of vowel-groups in hiatus other than *ai*, *ai*, *au*, *a:u*, and it does not develop further into a simple vowel,¹⁷ e.g. *ghěo*, WP. *ghiu* 'clarified butter' < Apabh. *ghiu* < Pkt. *ghio* < Skt. *ghṛta*; *sēal* 'winter' < Pkt. *si:ala* < *si:aa:la* < Skt. *śi:taka-la*; *kēara:* 'bed' < Pkt. *ke:ra* < Skt. *kedara:*; *manēara:* 'one who sells bangles' < MIA. *mania:ra* < Skt. *manika:ra*; *gua:lla:* 'cowherd' < MIA. *goa:la* < Skt. *gopa:la*; *narna:* 'wholesome' < *narōaa* < Skt. *ni:roga* (ka), etc. Similarly H. *juari:* 'gambler' < *juaa:ra* < Skt. *dyu:taka:ra*. But examples in Hindi are rare due to the insertion of *y*, *w*-glides, which is more usual; thus H. *pya:ra:* 'dear' < *pi-y-a:ra:* < *pi:ra:* < Skt. *priyaka:ra*; H. *gwaila:* 'cowherd' < *gu-w-a:la:* < *gua:la* < *goa:la* < Skt. *gopa:la*.

H. *cheni:* 'chisel' < *cheana* < Skt. *chedana*, may be the result of contraction, but P. *chæni:* 'chisel' seems to be an exception.

17. However, in some cases the first element [ē] of the diphthong develops into the semi-vowel *y*, thus *sēal*, *kēara:*, *manēara:* are pronounced as [yēal], [kyā:ra:], [mōnyā:ra:] respectively by most of the speakers of standard Panjabi.

121. It would appear that the diphthongs developed from vowel-groups ai, ai, au, au only, tend to develop into simple vowels. Keeping in view the past history of Indo-Aryan and the development of Indo-Iranian, if not actually Old Indo-Aryan, [ai, au] into Skt. [ai, au], of [ai, au] into Skt. [e, o], and then Skt. [ai, au] too becoming [e, o] in Middle Indo-Aryan, this seems to be a very natural course of development. What seems to have actually happened to OIA [ai, au] in their development into [e, o] in Sanskrit or MIA is that the second element was opened so that [ai, au] became [ʌe, ʌo] or [əe, əo], which later with the reduction of the first element [ʌ] or [ə] developed into simple [e, o]. The same thing happened to MIA vowel-groups ai, au in hiatus after they became diphthongs in New Indo-Aryan, but with a more sustained tendency to open the second element. Thus diphthongs [ai, au] first became [ʌe, ʌo] due to an open articulation of the second element. Then, this tendency being continued, they later developed into [æ, ɔ] through [ʌe, ʌɔ].

Vowels in hiatus > contraction :

122. A third treatment of vowels in hiatus, which is very regular, and at the same time very important from the point of view of the development of stems ending in long a, i, and u, may be seen in their contraction into a simple long vowel when they occur at the end of a word. In almost all the cases ultimate vowel contracts towards the penultimate to make the latter long. Thus H. ghorā; P. ghōrā: 'horse' < Apabh. ghodau, Śaur. Pkt. ghodao (Skt. ghoṭakah); H. ghārā; P. ghāra: 'pitcher' < Apabh. ghaḍau, Śaur. Pkt. ghaḍao (Skt. ghaṭakah); P. va: 'air' < Apabh. va:u, Śaur. Pkt. va:o (Skt. va:taḥ) P. ta: 'heat' < Apabh. ta:u, Śaur. Pkt. ta:o (Skt. ta:paḥ), but H. ba:w, ta:w due to the insertion of w-gilde; P. nā: 'name' (W.P. na:ū) < Apabh. na:ū (Skt. na:ma), but H. nā:w; H. and P. makkhi: 'fly' < Apabh. makkhia, Pkt. makkhia < Skt. makṣika; H. and P. mitti: 'earth' < Apabh. maṭṭia, Pkt. maṭṭia < Skt. mṛttika; H. dahi:, P. dahi: 'curd' < Apabh. dahiā (Skt. dadhikam); H. ghi: 'clarified butter' < Apabh. ghiu (Skt. ghr̥tam), but P. ghēo < Apabh. ghiu; Doābī Panjabi, however, has ghe, H., P. ji: < Apabh. jiu (Skt. ji:va), P. geri: 'red earth' < Apabh. geriu (Skt. gairika); H. geru: 'red earth' (also in P.) < Apabh. geruu or gerua (< *gairuka); H. and P. bicchu: 'scorpion' may be from * vr̥ścuka (Skt. vr̥ścika,

AMg vicchuya) through Apabh. vicchuu < Pkt. vicchuo; H. and P. jū: 'louse' < Apabh. ju:a < Pkt. ju:a (Skt. yu:ka:); P. rō 'soft hair' < Apabh. roā or roū (Skt. roman), but H. roā: appears to be from Skt. romaka through MIA roāa.

123. Vowels in medial position also contract the same way; the group ia or ia:, however, sometimes contracts to e; thus H. ḍeṛh, P. ḍeṛh 'one and a half' < diaddha < Pkt. divaddha; P. ḍu:rh from duaḍḍha also through contraction. (In H. dyorha:, however, the vowels do not contract due to the insertion of glide); H. bhi:ḥj(na:), P. bhiḥj(na:), 'to be drenched' < bhiājja < Skt. abhi-ajyate; P. neṛe 'near' < niāre < Pkt. niāde < Skt. nikāṣe. H., P. kaner < kaniar < Pkt. kannia:ra < Skt. karnika:ra. H., P., pila: < 'yellow' < piāla < *piāra; H. si:l 'wetness' < si:al < Skt. śi:ta; P. su:r 'hog' < suar < MIA suara < Skt. śu:kara, but H. suar; H. rona:, P. roṇa: 'to weep' < roana < Skt. rodana:, P. jḥir 'water-carrier' < jḥiur < dhiḥura < Skt. dhi:vara, etc.

Evolution of Nasal Vowels

124. All the vowels have their nasalised forms in Hindi and Panjabi. Historically, nasals in these languages have developed along the following lines:

(i) OIA intervocal m > v̄ > ~v, ṛ, e. g. OIA. grāma > H. gā:v; P. grā: (< grā:u) 'village'; OIA. kamala > H. kāval 'lotus', P. kṓl (< kaul).

(ii) OIA class nasal + consonant > nasalisation of the preceding vowel + consonant, e. g. OIA. aṅguṣṭha > H. āṅṭha:, P. āṅṭṭha: 'thumb'; OIA. aṅguli > H. and P. ūgli: 'finger'.

In Hindi, however, the general rule is that the nasalisation and the lengthening of the vowel occur side by side. Thus Skt. √kamp > H. √kā:p, 'to tremble' but P. √kamb; Skt. granthi > H. gā:ṭh, 'knot' but P. gaṇḍh; Skt. sandhya: > H. sā:jh 'evening', P. sañjh.

The above comparison of Hindi and Panjabi will also reveal the fact that whereas the latter reduces the class nasal before a consonant to the nasality of the preceding short vowel in the unaccented syllables only, the former does so in the accented and the unaccented both.

(iii) Insertion of a vowel or *anusvāra* in OIA words in the MIA stage.

It appears that in the MIA stage some dialects had the tendency of inserting nasal in the words without it descending from OIA. While the parent Prakrit of Hindi comprised such dialects where this tendency was very strong, Panjabi seems to have descended from the Prakrit which did not introduce nasals or changed an OIA consonant-group into nasal plus consonant. Thus OIA. akṣi > Pkt. akkhi > P. akkh, but H. ākh (< H. Pkt. *āṅkhi); OIA. ucca > Pkt. ucca > P. ucca; but H. ūca: (< H. Pkt. *uñca); OIA. iṣṭi < Pkt. iṭṭa > P. iṭṭ, but H. iṭ (< H. Pkt. *iṇṭa; OIA. sarpa > Pkt. sappa > P. sapp, but H. sā:p. (H. Pkt. sampa), etc.

Panjabi muṅgi: 'green beans' < OIA. mudga; ūṭh 'camel' < OIA. ustra; mā:j 'to clean' < OIA. ma:rjaya (causative of √mrj); nīd 'sleep' < Pkt. nidda < OIA. nidra; etc with nasalised long vowels are evidently loans from Hindi. But the nasal consonant in P. viṅga: 'crooked' < OIA. vakra; phaṅgh 'feather' < OIA pakṣa; maṅgana: < OIA. ma:rgaya-(√mrg) seems to have entered the parent Prakrit of Panjabi due to the influence of the neighbouring Prakrit of Hindi in the Middle Indo-Aryan stage, and these words according to the spirit of Panjabi have retained the nasal consonant and the length of the preceding accented short vowel, cf. H. bā:ka:, pā:kh, mā:g(na:), etc.

(iv) Nasalisation due to the vicinity of a nasal consonant especially after n or m.

This type of nasalisation is more frequent in Panjabi than in Hindi, e.g. H. mā: and ma; P. mā: < 'mother' < OIA. matr; H. mūh, P. mūh 'mouth' < OIA. mukha; H. mēh, P. mīh 'rain', < OIA. megha; H. nō, P. nō 'nine' < OIA. nava; P. nūh 'daughter-in-law' < OIA. snuṣa; P. nā: 'stream' < OIA. nadi; P. nōh < Apabh. nakhu < OIA. nakha; P. karnā:; H. karna; P. challnā:; H. calna; P. lammā:; H. lamba; etc. etc.

(v) Nasals in the terminations of OIA words > MIA m > nasalisation of the vowel, e.g. P. dahī: [dāi] 'curd' < OIA. pl. dadhimi; H. calā; P. callā: 'I may go' < Apabh. calaū < Pkt. cala:ū < cala:mu < OIA. cala:mo; H. calē 'we may go' < Apabh. calahi, calahim < Skt. calanti, etc.

(vi) Spontaneous nasalisation :

The tendency for this kind of nasalisation is found in both the languages. It may, however, be observed that the tendency is stronger in Panjabi than in Hindi, e.g. P. *bā:h*, H. *bā:h* 'arm' < OIA. *ba:hu*; P. *jō* but H. *jō* 'barley' < OIA. *yava*; P. *√sō* but H. *√so* 'to sleep' < Skt. *svap*; P. *chā:*, H. *chā:h*, *chā:w* 'shade' < OIA. *chaya:*; H. *sā:s* 'breath', but P. *sā:h* < OIA. *śvas:*; P. *ya:rā:* (or *gya:rā:*) 'eleven', *ba:rā:* 'twelve' but H. *gya:rah*, *ba:rah* < Pkt. *ega:rasa*, *ba:rasa* < Skt. *eka:daśa*, *dva:daśa*.

Treatment of OIA Single Consonants

INITIAL STOPS :

125. The OIA initial stops except the voiced aspirates followed by vowel have remained unchanged throughout the history of Indo-Aryan. The voiced aspirates remained unchanged in Middle Indo-Aryan, but in the New Indo-Aryan stage they have been variously affected. Whereas Hindi—both Western and Eastern—preserves them fully, Panjabi has turned them into unvoiced unaspirated stops accompanied by change in tone. It is here that the phonetic system of Panjabi differs from that of Hindi.

126. The following examples will show that all OIA initial stops, except the voiced aspirates, have been equally preserved by Hindi and Panjabi :

OIA. [k] = H., P. [k] :

OIA. <i>kaṭuka</i>	>	H. <i>kaṭua:</i>	P. <i>kōṭa:</i>	'bitter'
OIA. <i>karma</i>	>	H. <i>ka:m</i> ,	P. <i>kamm</i>	'work'
OIA. <i>kiṭaka</i>	>	H. <i>ki:ṭa:</i>	P. <i>ki:ṭa:</i>	'insect'
OIA. <i>kaṣṭha</i>	>	H. <i>kaṭh</i> ,	P. <i>kaṭh</i>	'wood'
OIA. <i>koṣṭha</i>	>	H. <i>koṭha:</i>	P. <i>koṭṭha:</i>	'room'
OIA. <i>kaṇṭaka</i>	>	H. <i>kā:ṭa:</i>	P. <i>kaṇḍa:</i>	'thorn'
OIA. <i>kukṣi</i>	>	H. <i>kokh</i> ,	P. <i>kukkh</i>	'womb'

OIA. [kh] = H., P. [kh] :

OIA. <i>kharju:</i>	>	H. <i>kha:j</i> ,	P. <i>kha:j</i>	'itch'
OIA. <i>kharju:ra</i>	>	H. <i>khaju:r</i> ,	P. <i>khaju:r</i> ,	'palm'
OIA. <i>khaṭva:</i>	>	H. <i>khaṭ</i> ,	P. <i>khaṭṭ</i>	'bedstead'
OIA. <i>khata</i>	>	H. <i>khata:</i> ,	P. <i>khatta:</i>	'store-house'
		<i>kbatta:</i> ,		
OIA. <i>khadya</i>	>	H. <i>kha:d</i> ,	P. <i>kha:d</i>	'fertilizer'

OIA. [g] = H., P. [g]:

OIA. gala	>	H. gala:,	P. gal	'neck, throat'
OIA. guccha	>	H. guccha:,	P. guccha:	'bunch'
OIA. gr̥dhra	>	H. gi:dh,	P. giddh	'vulture'.
OIA. garbhini:	>	H. ga:bbin,	P. gabbhan	'pregnant'
OIA. gaḍba	>	H. gaḍha:,	P. gaḍha:	'thick'
OIA. gotra	>	H. got,	P. got	'family'

OIA. [c] = H., P. [c]:

OIA. candra	>	H. cā:d,	P. cand,	'moon'
			WP. cann	
OIA. cañcu	>	H. cōc,	P. cuñj	'beak'
OIA. caitra	>	H. cet,	P. cet	'name of a month'
OIA. carma	>	H. ca:m	P. camm	'leather'
OIA. cakra	>	H. ca k,	P. cakk	'potter's wheel'
OIA. caṭaka	>	H. ciṭa:,	P. ciṭa:	'sparrow'
OIA. citraka	>	H. ci:ta,	P. ci:tta:	'leopard'.
OIA. caura	>	H. cor,	P. cor	'thief'.

OIA. [ch] = H., P. [ch]:

OIA. *chatti	>	H. chat,	P. chatt	'roof'
(Skt. chatra)				
OIA. cha:ya:	>	H. chā:h,	P. chā:	'shade'
		chā:w		
OIA. chikka:	>	H. chī:k,	P. chikk	'sneeze'
OIA. channa	>	H. cham,	P. chann	'hut'
		'thatch'		
OIA. chedana		H. cheni:,	P. chæni:	'chisel'

OIA. [j] = H., P. [j]:

OIA. jihva:	>	H. ji:bh,	P. ji,bh	'tongue'
OIA. janma	>	H. janam,	P. janam	'birth'
OIA. √ja:gr̥	>	H. √ja:g,	√P. ja:g	'to wake'
OIA. ja:la	>	H. ja:la:,	P. ja:la:	'web'
OIA. juṣṭa	>	H. juṭha:	P. juṭṭha:	'polluted'

OIA. [t] = H., P. [t]

Very few words began with a cerebral stop in Old Indo-Aryan. Most of the words with an initial cerebral stop are of later origin and seem to be borrowed from Prakrits.

OIA. *ṭaṅkaka* > H. *ṭaka*; P. *ṭaka*; *ṭaga*; 'a two-piece copper coin'

OIA. *ṭaṅka*: > H. *ṭāṅg*; P. *ṭaṅg* 'leg'

OIA. *ṭiṭṭibha* > H. *ṭiṭṭihara*; P. *ṭaṭiṭhra*; 'sand-piper'

OIA. [ṭh] = H., P. [ṭh]:

The only word with an initial [ṭh] is Skt. *ṭhakkura* and this may be a *deshi* word.

Skt. *ṭhakkura* > H. *ṭhakkur*, P. *ṭhaṅkar* 'god'.

OIA. [ḍ] = H.P. [ḍ]:

Initial *ḍ* is very rare in Old Indo-Aryan and is of late origin. Pāṇini gives *ḍaḥkini*: (vi, 2, 51) and *Ṃḍi*: (vii, 2, 10).

OIA. *ḍaḥkini*: > H. *ḍaḥin*, P. *ḍaḥ*, (W.P. *ḍaḥ*) 'witch'.

OIA. *ḍamaru* > H. *ḍamaru*; P. *ḍaru*: 'small drum'.

OIA. [ṭ] = H., P. [ṭ]:

OIA. *tiraśca* > H. *tircha*; P. *tircha*: 'slanting'

OIA. *taila* > H. *tel*, P. *tel* 'oil'

OIA. *taṁbra* > H. *tāba*; P. *taṁbra*: 'copper'

OIA. *tantu* > H. *tāṭ*, P. *tand* 'thread'

OIA. *taṁpa* > H. *taṁv*, P. *ta*: 'heat'

OIA. *tikṣṇa* > H. *tikha*; P. *tikkha*: 'sharp'

OIO. *tuṣa* > H. *tus*, *tusi*; P. *toh*: 'husk'

(also P. *tuṅi*: < diminutive of Skt. *tuṣa*).

But in P. *ṭiṭ* 'sour' (H. *ṭiṭa*:) < Skt. *tikṭa*, [ṭ] has been cerebralised to [ṭh],

OIA. [ṭh] = H., P. [ṭh]:

Only a few words begin with [ṭh] in OIA, and these are either proper names or onomatopoeic.

OIA. *thuthkara* > H. *thuk*, P. *thukk* 'sputum'

OIA. [ḍ] = H., P. [ḍ]:

OIA. *danta* > H. *dāṭ*, P. *dand* 'tooth'

OIA. *dadhi* > H. *dabī*, P. *dabī*: 'curd'

OIA. *dugdha* > H. *duḍh*, P. *duddh* 'milk'

OIA. *daṁtra* > H. *dāṭi*, P. *daṁtri*, *daṁti*: 'sickle'

OIA. di:paka	>	H. diya:,	P. di:va:	'earthen lamp'
OIA. devara	>	H. devar,	P. deur	'husband's younger brother'

OIA. [p] = H., P. [p]:

OIA. patra	>	H. pa:t, patta:,	P. patta:	'leaf'
OIA. pañca	>	H. pā:c,	P. pañj	'five'
OIA. pakṣa	>	H. paṅkb, pā:kb.	P. paṅkh, pakkh	'feather' 'side'
OIA. pakva	>	H. pakka:,	P. pakka:	'firm'
OIA. paśca:t	>	H. pi:che,	P. picche	'after'
OIA. pustika:	>	H. pothi:,	P. potthi:	'book'

OIA. [ph] = H., P. [ph]:

OIA. pha:la	>	H. pha:l,	P. pha:la:	'ploughshare'
OIA. phalguna	>	H. pha:gun,	P. phaggaṇ	'name of a month'
OIA. phaṇa	>	H. phan,	P. phaṇ	'snake's hood'
OIA. √phal	>	H. √phalna:,	P. √phalna:	'to bear fruit'.

OIA. [b] = H., P. [b]:

OIA. ba:hu	>	H. bā:h,	P. bā:h	'arm'
OIA. bi:ja	>	H. bi:j,	P. bi:	'seed'
OIA. bindu	>	H. bū:d,	P. bund, bind	'drop'
OIA. baddha	>	H. bādha:,	P. baddha:	'tied'
OIA. √budh+ya	>	H. √bujh	P. √bujjh	'to guess'

INITIAL VOICED ASPIRATES :

127. As already mentioned, OIA voiced aspirates are fully retained by Hindi, whereas they are devoiced and disaspirated in Panjabi, and this modification is further accompanied by change in tone, i. e. the pitch of the following vowel is lowered. The following examples will illustrate this fact :

OIA. [gh]:

OIA. ghaṭa	>	H. ghaṛa:, but P. ghara:	[k'ʌ̃ra:]	'pitcher'
OIA. ghoṭaka	>	H. ghoṛa:, but P. ghoṛa:	[k'ʌ̃ra:]	'horse'
OIA. ghr̥ṣa:	>	H. ghin, but P. ghin	[k'ʌ̃n]	'detestation'
OIA. ghr̥ta	>	H. ghi:, but P. gheo	[k'ʌ̃ʊ]	'clarified butter'
OIA. ghaṇṭika:	>	H. ghaṇṭi:, ghāṇṭi:, but P. ghaṇṭi:	[k'ʌ̃ṇṭi:]	'uvula'
OIA. ghana	>	H. ghana:, but P. ghana:	[k'ʌ̃na:]	'thick'

OIA [jh]:

OIA had no word which began with [jh] except *jhaṭiti* and a few others which are later and onomatopoeic. The initial [jh] in NIA words, therefore, generally represents the MIA [jh] or the later Sanskrit [jh] which got into it due to the influence of Prakrits.

OIA. *jhaṭiti* > H. *jhaṭ*, but P. *jhatt* [c'ʌtt] 'at once'

OIA. *jha:maka* > H. *jhā:vā:*, but P. *jhā:vā:* [c'ā:vā:] 'slab for rubbing the feet'

OIA. [dh]:

Initial [dh] is also very rare in OIA. The NIA [dh], therefore, comes from the MIA [dh].

OIA. *dhaukate* > H. *dhona:*, but P. *dhona:* [t'ona:] 'to carry'

Pkt. *dhilla* > H. *dhi:la:*, but P. *dhilla:* [t'illa:] 'loose'

OIA. [dh]:

OIA. *dhu:ma* > H. *dhuā:*, P. *dhū:ā:* [t'ū:ā:] 'smoke'

OIA. *dhu:li* > H. *dhu:l*, P. *dhū:l*, *dhur* [t'u:l, t'u:r] 'dust'

OIA. *dhavala* > H. *dhola:*, P. *dhola:* [t'ola:] 'white'

OIA. *dhana* > H. *dhan*, P. *dhan* [t'ʌn] 'wealth'

OIA. *dharra:* > H. *dhar*, P. *dhar* [t'a:r] 'stream'

OIA. [bh]:

OIA. *bhakta* > H. *bhaṭ*, P. *bhatt* [p'ʌtt] 'boiled rice'

OIA. *bhedra* > H. *bher*, P. *bhed* [p'ed] 'sheep'

OIA. *bhadra* > H. *bhala:*, P. *bhala:* [p'ʌla:] 'good'

OIA. *bheda* > H. *bhed*, P. *bhed* [p'e:d] 'difference'

INTERVOCALIC STOPS :

128. As already noticed (vide 116) OIA intervocal unvoiced stops became voiced in Early MIA. Later on while the resultant voiced unaspirated stops together with the original [g, j, d, b] were completely lost through a spirant pronunciation, the aspirates gh, dh, bh, both original and resultant, were reduced to [h]. This change forms a landmark in the history of Indo-Aryan and is responsible for many subsequent phonetic changes in NIA. So far as Hindi and Panjabi are concerned, we have discussed the treatment of vowels in hiatus caused by the elision of the unaspirated stops in MIA, and have

seen their mutual agreement and disagreement. But in the treatment of $h \angle OIA$. kh, gh, th, dh, ph, bh , Hindi and Panjabi differ very widely, rather uncompromisingly. While in Hindi MIA $[h]$ is retained fully, it loses itself in Panjabi affecting the tone of the neighbouring vowel. The following examples will illustrate this difference :

OIA. $kh > MIA. h$:

OIA. $mukha > MIA. muha > H. mūh$, but P. $mūh$ $[mū:]$ 'mouth'

OIA. $śekhara (ka) > MIA. seharao > H. sehara:$, $sehra:$, but P. $sehra:$ $[səra:]$ 'chaplet'.

OIA. $gh > MIA. h$:

OIA. $megha > MIA. meha > H. mēh$, but P. $mīh$ $[mī:]$ 'rain'

OIA. $śla:ghate > H. sarahna:$, but P. $salḥḥa:$ $[səlḥḥa:]$ 'to praise'

OIA. $th > MIA. h$:

OIA. $kathayati > MIA. kadhedi, kahedi, Apabh. kahei > H. kahe$, but P. $kahe$ $[k^hə]$, also $kahe$ 'may say'.

OIA. $śapatha > MIA. savadha, savaha, > H. sṛh$ ($\angle sṛha$), but P. $sṛh$ $[sṛ:]$ 'oath'.

OIA. $dh > MIA. h$:

OIA. $vadhu: > MIA. vahu: > H. bahu:$, but P. $bahu:$ $[bāu]$ 'wife.'

OIA. $dadhi (kaṃ) > MIA. dahiaṃ > H. dahi:$, but P. $dahi:$ $[dāi]$ 'curd'

OIA. $ph > MIA. h$:

OIA. $kaphoṇi > MIA. kahoṇi > H. kohni:$, but P. $ku:hni:$ $[kūni:]$ 'elbow'

OIA. $bh > MIA. h$:

OIA. $gardabha > MIA. gaddaha > H. gadaha:$, $gadha:$, but P. $gadha:$ $[g^hda:]$ 'donkey'.

OIA. $la:bha > MIA. la:ha > P. la:ha:$ $[lāa:]$, also $la:ha:$ 'gain'.

129. $[ch, jh]$ did not occur intervocally in OIA. $[t, th]$ became $[d, dh]$ in MIA, which together with the original $[d, dh]$ later became $[ɽ, ɽh]$ respectively. While Hindi has both the aspirated and the unaspirated retroflex flaps $[ɽ, ɽh]$, Panjabi has the unaspirated $[ɽ]$ only,

as the aspiration of [rh] is lost in Panjabi in giving a usual tonal effect to the neighbouring vowel. Thus,

OIA. ṛ > MIA. ṛ :

OIA. kaṛaka > MIA. kaṛaa > H. kaṛa; P. kaṛa: 'bracelet'

OIA. ghaṛa (ka) > MIA. ghaṛaa > H. ghaṛa; P. ghaṛa: 'pitcher'

OIA. kaṛuka > Pkt. kaṛua > H. kaṛva; P. kṛa: 'bitter'.

OIA. th > MIA. dh :

CIA. piṭha (ka) > MIA. piṭhaa > H. piṭha; P. piṭha: [piṭṛa:]
'foot-stool'

CIA. paṭhati > MIA. paṭhai > H. paṭhe, P. paṭhe [pṛe]
'he may read'

OIA. ḍ > MIA. ḍ :

OIA. naḍi: > MIA. naḍi or naḍia > H. naṛi; P. naṛ 'vein'

OIA. piḍa: > MIA. piḍa > P. piṛ 'pain'

OIA. ḍh > MIA. ḍh:

OIA. aṣaḍha > MIA. aṣaḍha > H. aṣaṛh, P. haṛḥ [hàṛ]

'name of a month'

OIA. gaḍha > MIA. gaḍha > H. gaṛha; P. gaṛha: [gàṛa:] 'thick'

INITIAL NASALS :

130. Of the so-called five class-nasals, only n, m are found initially in Old Indo-Aryan. In fact, the other nasals cannot be regarded as independent sounds, as they occur medially before the stops of their own series and in particular contexts only. Middle Indo-Aryan, however, shows initial [ṇ], but we are not sure whether it was actually pronounced as a retroflex nasal in the current speech. Judging the present position of [ṇ] on the basis of evidence furnished by certain NIA languages in their spoken form it appears that while the change of non-initial OIA n into MIA ṇ was real, the initial OIA [n] which was dental developed an alveolar articulation, but it began to be written with the symbol for [ṇ] for want of a proper symbol in the traditional orthography. It is also probable that the OIA dental [n] had developed an alveolar articulation at a very early date, and its acoustic effect may have been different to different ears, ranging between the dental and the cerebral.¹⁸ However, intervocally, it must have been more inclined towards the cerebral in MIA.

18. Jain : *Phonology of Panjabi*, 139.

In New Indo-Aryan, the so-called MIA [ɳ] appears as alveolar *n* in initial position, although in writing this nasal is represented by the symbol used for the dental [ɳ]. Thus Hindi and Panjabi both show an alveolar *n* for the OIA initial dental *n* :

OIA. *nr̥tyati* > MIA. *naṭṭai* > H. √*naṭ*, P. √*nacca* 'to dance'.

OIA. *naṣṭita* > MIA. *naṣṭida* > H. P. *naṣṭi* 'barber', etc.

Initial [m] has, however, remained unchanged in both Hindi and Panjabi as in other New Indo-Aryan languages, e.g. OIA. *mukha* > MIA. *muha* > H. *mūh*, P. *mūh* 'mouth'; OIA. *mastaka* > MIA. *matthaa* > H. *maṭṭha*, P. *matṭha* 'forehead' etc.

INTERVOCALIC NASALS :

131. OIA had intervocally *n*, *ṇ*, *m* only. Like the initial *n*, intervocalic *n* also has become alveolar in Hindi and Panjabi. In Hindi the cerebral *ṇ* is found in the *tatsamas* only, while in Panjabi, it is far more common. In a large number of words Panjabi shows [ɳ] for OIA [ɳ] also. The eastern dialects of Panjabi, however, do not distinguish between [ɳ] and [ṇ], and have alveolar *n* only. This is evidently due to the influence of Hindi as in the case of [v] and [b].

132. Thus Hindi and Panjabi alveolar *n* represents OIA dental [ɳ] in H. *nanad*, P. *nanam* 'husband's sister' (Skt. *nanandṛ*) ; H. *man* 'mind' (Skt. *manas*) ; H. *jamuna*, P. *jamana* 'river Jamna' (Skt. *yamuna*) ; H. *jan*, P. *jana* (Skt. *jana*) 'person' etc., but Hindi has alveolar *n* for OIA. or MIA. [ɳ] also as in *phan* 'sanke's hood' (Skt. *phaṇa*), *ginna* 'to count' (Skt. *gaṇayati*) ; *paiṇi* (MIA. *paṇṇia* < OIA. *paṇṇiya*) ; *than* 'teat' (MIA. *thana* < OIA. *stana*) etc. The eastern dialects of Panjabi generally agree with Hindi in this matter, but the western dialects still retain the MIA and OIA cerebral [ɳ] and in cases where a cerebral [ɳ] appears for an OIA dental [ɳ] in them it always goes back to MIA. *ṇ* < OIA. *n*.

Examples :

ṇ < OIA. *n* :

kaṇṇa 'bracelet' (Skt. *kaṇkara*) *guṇ* 'quality' (Skt. *guṇa*) ; *baḥman* 'Brahman' (Skt. *brahmana*) ; *ginna* 'to count' (Skt. *gaṇayati*) ; *sṇ* 'name of a month' (Skt. *śraṇa*) ; *luṇ* 'salt' (Skt. *lavaṇa*).

n < MIA. n < OIA. n:

ræn 'night' < MIA. rayani-raani < OIA. rajani:

væn 'wail' < MIA. vaana < OIA. vacana

k'ana: 'thick' < MIA. ghana < OIA. ghana

hun 'now' < MIA. *ahuna < OIA. adhuna:

tha:na: 'police station' < MIA. tha:na < OIA. stha:na

kOn 'who' < MIA. kavana-kavuna < OIA. kahpunah.

masa:n 'cremation ground' < MIA. mas:na < OIA. śmaśa:na

133. The nasal [m] occurs intervocally in Hindi and Panjabi both, but rarely it comes from the intervocal OIA [m] which was always split into [ṽ] with a subsequent development into [~v] or [~w] (i.e. its nasality was transferred to the preceding vowel) in Hindi and [ū] or [~u] in Panjabi. In the latter case, [ū] or [~u] together with the preceding vowel forms a diphthong which later results into a simple long vowel, the nasality of which is lost in the interior of the word but retained when final. Thus Skt. amalaka > H. ā:vla:, P. ōla: (< a:ula) 'myrobalan'; Skt. śya:mala > H. sū:vla:, P. sōla: (< sa:ula) 'dark'; Skt. camara > H. cāvar, P. cOr 'fly-whisk'; Skt. kamala > H. kāval, P. kOl 'lotus'; bhramara > H. bhāvra: (also bhōra: which may be due to Panjabi influence), P. bhōra: 'black bee'; Skt. grama > H. gā:w, P. grā: (< grā:u) 'village'; Skt. nama > H. nā:w, P. nā: (< na:ū) 'name'; Skt. damani: > H. da:vni: (< dā:vani:), P. dōni: (< da:uni:) 'an ornament for forehead'; Skt. bhrama > P. bhō (< bhaū) 'whirl'.

Exceptions:

gōna: (< gauna:) 'a post-marriage ceremony' beside gavan, both from Skt. gamana, and gō (< gaū) 'need' (< Pkt. gāva, gāva (< Skt. gama) are irregular for Hindi.

In P. sa:va: 'green' (< Skt. śya:ma), the retention of [v] is not normal for Panjabi. Similarly in P. savā:k 'kind of rice' (< Skt. śya:ma:ka).

H. dhu:ā:, dhuā: 'smoke' (< Skt. dhu:maka) beside dhuvā:, and roā: (Skt. roma+ka) show double irregularity for Hindi, by eliding the v and then transferring its nasality to the next syllable. Disappearance of u in P. dhū:ā: (coll P. dhū:) is due to contraction.

In H. rūi: 'cotton' < *romika: (Skt. roman) nasality disappears which is irregular, while in P. rū: 'cotton' it is duly retained. The

change $o > u$ in Hindi *ruṣi* is due to Panjabi influence, cf. Skt. *komala* $>$ P. *kuḷa*: 'soft'; Skt. *loma* (n) $>$ P. *lū*: 'soft hair on the body'.

INITIAL y , v

134. OIA semi-vowels $[i]$, $[w]$ have been described as '*antahstha*' by the Sanskrit grammarians. By the time of Pāṇini a dento-labial spirant $[v]$ had also developed¹⁹, which is evidently a variant of the older bilabial voiced $[w]$ ²⁰. Similarly semi-vowel $[j]$ had also a variant in fricative $[y]$ quite early.

In MIA we notice initial $[y]$ always changed to $[j]$, except in Māgadhī, Prakrit.²¹ Hindi and Panjabi both follow Śaurasēnī Prakrit. The only words where the OIA initial $[y]$ has been retained in Panjabi are derivatives of the root $\sqrt{yāh}$ 'to copulate' $<$ OIA. $\sqrt{yābh}$, and the root itself. Modern Panjabi, however, shows the tendency to retain and even revive the initial $[y]$, though in the educated speech only. This is due to the influence of Persian in an earlier stage, and of Sanskrit and literary Hindi in the present stage. Thus, while in *ya:r* 'friend', *ya*: 'or', *yakī:n* 'confidence' etc., borrowed from Persian, $[y]$ is usually retained, we notice its revival in such semi-tatsamas as *yatan* $[y^h tən]$ 'effort' $<$ Skt. *yatna*; *yug* 'age' $<$ Skt. *yuga*; *yodha*: 'fighter' $<$ Skt. *yodha*; etc. In older Panjabi these semi-tatsama borrowings were used to be pronounced with $[j]$ as *jatan*, *jug*, *jodha*; etc. $[y]$ in P. *ya:rā*: 'eleven' which is an interesting case, is, however, not due to retention or revival. It has developed from Pkt. $[ě]$ followed by $[a:]$ probably through the insertion of an euphonic y between the two vowels; thus Skt. *ekadāśa* $>$ Pkt. *ēga:tasa*, *ēa:rasa* $>$ **ia:rah* $>$ P. *ya:rā*;

Old Hindi seems to have followed Śaurasēnī more faithfully as we do not find a single word with initial $[y]$ in this language. It is only recently that the literary Hindi with its tendency to use Sanskrit words preponderantly has introduced this sound. Thus whereas in all the *tadbhavas* we find OIA. $y > j$, the *tatsama* or *semi-tatsama* words show $[y]$ instead, e. g. *jamana*: 'river *jamna*' $<$ Skt. *yamuna*; *joban* 'youth' $<$ Skt. *yauvana*; *jogi*: $<$ Skt. *yogi*; etc. but High Hindi *yamuna*:, *yauvan*, *yogi*:, etc.

19. Pāṇini-sikṣā, 18; "dantoṣṭhyo vaḥ smṛito budhātḥ".

20. Taraporewala: *Science of Language*, p. 238

21. Vr. 2.31, Hc. 1, 245, Tv. 1.3.74.

135. OIA initial [v] changes to [b] in Hindi, whereas it is usually retained in Panjabi, except in its eastern dialects, Doābi and Mālwaī, which change it to [b], certainly due to the influence of the neighbouring Western Hindi. Most of the exceptions where [b] is found for the original [v] in Panjabi are, therefore, due to the influence of Hindi. Some may, however, be loans from Hindi or from its parent Prakrit in the MIA stage.

Thus [b] in P. *bijli*: 'lightning' < OIA. *vidyut* ; P. *ba:jjā*: 'musical instrument' < OIA. *va:dya* ; P. *bahu*: 'wife' < Skt. *vadhu* ; P. *batti*: 'wick' < Skt. *vartika* ; P. *ba:ndar* 'monkey' < OIA. *va:nara* ; *ba:tera*: 'quail' < OIA. *vartaka* ; P. *bajj* 'defect' < Skt. *vajra* ; P. *bōla*: 'mad' < OIA. *vātula* ; P. *basant* 'spring' < OIA. *vasanta* ; P. *bi:n* 'a musical instrument' < OIA. *viṃṣa* ; *baheṛa*: 'belleric myrobalan' < OIA. *vibhittaka* ; P. *bōṇa*: 'dwarf' < OIA. *va:mana* ; P. *buddha*: 'old man' < OIA. *vr̥ddha* ; P. *bicchu*: 'scorpion' < OIA. *vr̥ścika*, etc. is the result of Hindi influence, but P. *bā:k* 'bracelet' (the other variant is 'vaṅg' which is properly Panjabi) < OIA. *vakra* ; P. *bā:s* (the other variant is *vanjh* which is properly Panjabi, Doabi P. *banjh*) < OIA. *vaṃśa* ; P. *bā:jlh* 'barren women' < OIA. *vandhya*: etc. are evidently loans from Hindi. P. *bat* 'thing, matter' < OIA. *varṭa*: is also a loan from Hindi.

P. *baddal* 'cloud' < OIA. *va:rdala* which should be *vaddala* in Panjabi Pkt. bears the influence of Midland Prakrit. P. *barkha*: 'rain' and *barsat* 'rainy season' may be loans from Hindi, cf. *√vassana*: and *√varhna*: 'to rain' < Skt. *√varṣ*, both for H. *barasna*: 'to rain' and *varha*: < Skt. *varṣa* 'year' for H. *baras* ; while [r] is assimilated to the following consonant in *√vassana*:, the other words where [r] is retained show *h* < *s* < *ṣ* later reduced to tone.

136. [b] is seen in Panjabi for OIA conjunct [vy] also resulting into [vv] in MIA through assimilation of the second element, e.g. P. *ba:gh* < Skt. *vya:ghra*, cf. H. *bagh*, also P. *ba:ghya:r*, *ba:ghar* from the same ; this again is evidently due to Hindi influence.

It would be further interesting to note that [b] is found alike in Hindi and Panjabi for OIA. [dv] in compound numerals like *dva:daśa*, *dva:viṃśati*, etc. The change should go back to MIA stage, as it is found alike in all the New Indo-Aryan languages, e.g. P. *ba:rā* ; H. *barah*, S. *ba:rahā*, M. *barra* ; B., O., G. *ba:r* < OIA. *dva:daśa* 'twelve' ; P. *batti* ; H. *battis*, E. H. *battis*, S. *baṭṭi:ha*, M. *battis*

B., O., G. batriś < OIA. dva:triṃśat 'thirty two'; P. batali:, H. baya:li:, S. ba:eta:li:ha, M. beca:li:, B. beya:li:, O. bayadli:, G. beta:li: < OIA. dva:catva:riṃśat or dvicatva:riṃśat 'forty two'; P. bavañja:, H. ba:van, S. bavañja:ha, M. ba:vanna, B. ba:unna, O. ba:an, G. ba:van < OIA. dva:pañca:śat 'fifty two'; P. bahattar, H. babattar, S. bathattari, M. bahattar, B. ba:hattar, O. ba:a:sturi < Skt. dva:saptati 'seventy two'; P., S. bya:ssi:, H. baya:si:, M. bya:yāśi:, B. biya:śi:, < OIA. dva:śiti 'eighty two', etc. But the MIA forms given by the grammarians are with [v], e.g. va:raha²² for Skt. dva:daśa; vatti:sa²³ for Skt. dva:triṃśat; va:yali:sam²⁴ for Skt. dva:catva:riṃśat; va:vaṇam²⁵ for Skt. dva:pañca:śat, etc. This causes some perplexity. However, it may be assumed that this v was somewhat an obscure sound, intermediate between semi-vowel v [w] and consonant [b], perhaps more inclined towards b, which therefore became a clear b in this Western Apabhraṃśa and later through its influence or independently in other Apabhraṃśas also. A semi-consonant v has been shown to have existed in Māgadhi Prakrit by Hoernley²⁶, which later on was hardened into the consonant b, when initial, in Eastern Hindi.²⁷ A somewhat similar v seems to have developed, though medially, in Śaurasenī and Mahārāṣṭri Prakrits. The very fact that it was substituted for the medial consonant p or b²⁸ shows that it was more akin to the consonant b than to the semi-vowel v. Perhaps its real character was a spirantised b as is suggested by the rules relating to the elision of v given by the Prakrit grammarians²⁹. A conjunct Skt. v, which was actually a semi-vowel and which still retains this original character in Hindi, seems to have also gone the same way, i.e. it also became a consonant v in Prakrits, otherwise dv in dva:daśa etc. would not have given vv through assimilation. The Aśokan South-Western Prakrit has db for dv in dha:daśa, which clearly shows two things; firstly, the conjunct v in dv was not treated as a semi-vowel, hence its change to the consonant b; secondly, that in some Prakrits

22. Vr. 2, 44.

23. Tv. 1, 4, 79.

24. Wb. Bh. 412.

25. Wb. Bh. 426.

26. *A Grammar of the Eastern Hindi*, 18, P. 17-21.

27. In Kaithi script used for writing E. Hindi, v is written for b; thus what is written as vacan is pronounced as bacan.

28. Vr. 2, 15; Hc. 1, 237; Tv. 1, 3, 61.

29. Vr. 2, 2; Mq. 2, 2.

it must have been represented by *b*; thus its character was somewhat obscure. In [db] *b* assimilated *d*, and the resultant [bb] gave *b* in NIA. Thus we have *bar* 'door' for Skt. *dvarra* (> *dba:ra* > *bba:ra* > *ba:ra*) in Hindi and Panjabi; in H. *ubān* 'unguent' [b] stands for [v] in Skt. *udvartana*; Panjabi has [b] and [v] both, [b] in EP. *batna:* and [v] in WP. *vatna:*. Sindhi *uṭanu*, however, shows elision of *v* or *b* which, again, points to the consonant or spirant treatment of the conjunct *v* in Prakrits. [v] in *dve* or *dvau*, the Sanskrit cardinal for 'two', when not in compounds, has usually been treated as semi-vowel in MIA, as the regular Prakrit forms for the above as given by the Prakrit grammarians are *due*³⁰, *dave*³¹, *do* or *donni*³² from which come the NIA forms *dui* in Bengali, Oria, Eastern Hindi, *don* in Marathi *dū* in Sindhi and *do* in Western Hindi, Panjabi and Eastern Hindi. Hemacandra³³ has, however, given the form *be* also which is preserved in Gujarati *be* and sindhi *ba*. To add to this are the Prakrit ordinal forms *viiao*³⁴, *viiao*³⁵ or *viijao*³⁶ for Skt. *dvitiya*, a derivative of the cardinal *dvi*. From these come the G. *bi:jo*, S. *bi:jo*, *bi:o*, Mul. (Lah.) *bea* in NIA. This again shows that *v* had an obscure character in Prakrit and that it was treated as *b* in the South-Western Prakrit.

INTERVOCALIC Y, V

137. OIA groups *aya*, *ava* with intervocalic *y*, *v* regularly become *e, o* in Pāli and in the Inscriptional Prakrits. Thus we have *jeti* < OIA. *jayati*; *moceṭi* < OIA. *mocayati*; *terasa* < **trayadaśa* (Skt. *trayodaśa*); *bhoti* < OIA. *bhavati*; *loṇa* < Skt. *lavāṇa* etc. in Pāli, and *pu:jeti*, *hoti*, etc. in the Inscriptional Prakrits. This tendency is upheld, though to a limited extent, in NIA in such Hindi and Panjabi words as *ber* 'jujube' < MIA. *bayara* < *baara* < OIA. *badara*; *kasera* 'brazier' < MIA. *kamsa-y-ara* < *kamsaata* < OIA. **kamsakara* (Skt. *kamsakara*); H. *kela:*, P. *kella*: 'banana' < MIA. *ka-y-ala* < *kaala* < OIA. *kadala*; *hatheli*: 'palm' < MIA. *hattha-y-ala* < *hatthaala* < OIA. *hastatala*, etc. which contract MIA [aya] into [e].

30. Ls. 318.

31. Vr. 6, 57.

32. Wh. Bh. 424, Hc. 3, 130.

33. 3, 120.

34. Hc. 1, 94.

35. Hc. 1, 428.

36. Hc. 248.

138. The regular and more common treatment of MIA. *aya*, *ava* in Hindi and Panjabi is to change the group into [æ, ɔ] respectively; thus P. *væn* 'wail', H. *bæn* 'utterance' < MIA. *vayana* < *vaṇa* < OIA. *vacana*; H. *ræn*, P. *ræn* 'night' < MIA. *rayani* < *raṇi* < OIA. *rajani*; H. *mæn* 'cupid' < MIA. *may-y-ana* < *maṇa* < OIA. *madana*, H. P. *pɔn* 'air' < MIA. *pavan* [pa-w-ana] < *paṇa* < OIA. *pavana*; H., P. *ɔr* 'other, and' < MIA. *avar* [a-w-ara] < *aara* < *abara* < OIA. *apara*, etc., Evidently the intervocal *y*, *v*, in these cases come through glides.

In the treatment of OIA [ava], Hindi and Panjabi both have the [v] changed to [u]. The following vowel coalesces with *u* which forms a diphthong with the preceding vowel. The diphthong then develops into simple vowel [ɔ]. Thus OIA. *dhavala* > *dhauala* > *dhaula* > H., P. *dhɔla*: 'white'; OIA. *kavala* > *kauala* > *kaula* (*kaura*) > H. *kɔr* 'morsel', etc.

139. An intervocalic OIA [y] when preceded by a close vowel *i*, *e*, *u*, developed a strongly fricative *y*-glide before it to become [yy] in Pāli. This [yy] appears as [jj] in Mahārāṣṭrī and Ardha Māgadhī. Hindi and Panjabi both show [jj] or [j] in certain words, e. g.; P. *dujjā*; W.H. *dujja*: 'other, second' < OIA. *dvitīya*; P. *tijjā*; W.H. *tiija*: 'third' < OIA. *tritīya*, etc. This development being not proper to Śaurasenī Prakrit, the forms with [j] or [jj] in Western Hindi and Panjabi may be loans in the MIA stage from a dialect from which comes *duja*: in Marāṭhī. Hemacandra³⁷ gives *dujjāo*, *taijjāo*, the common source of Western Hindi and Panjabi forms, beside other forms with and without *j*. While Sindhi *bi:jo*, *tri:jo*, Gujarati *bi:jo*, *ti:jo* come from such Prakrit forms as *viijjāo*, *taijjāo*, the alternative Panjabi forms *du:a*, *tka*: along with Sindhi *bi:o*, *tri:o*, and Multani *bea*: come from such MIA forms as *viiao*, *taiao* which show elision of the OIA intervocalic [y]. Thus there must have been two groups of Prakrits, one which developed a fricative *y*-glide before the original *y* and later on changed the group [yy] into [jj], and the other which elided the *y*. The alternative forms in NIA show a dialectal intermixture of these groups. For example, Panjabi has both *bhaṇeā*: (or *bhaṇevā*:) and *bha:nja*: 'sister's son' < MIA. *bhaṇea-bhaṇejja*, (Pāli *bha:giṇeyya*) < OIA. *bha:giṇeya*. Hindi has the latter (i.e. *bha:nja*:) only. Similarly P. *bhatrīa*: and *bhatīja*: 'brother's son' < Pkt. *bhattia-bhattijja*,

37. 1, 94.

W. Pkt. *bhatrīa*, < OIA. *bhratrīya*, but H. *bhatījāi* only. In Hindi honorific Imperative second person plural *parhīe*, *calīe*, *kharīe*, etc. the passive increment *y* of Sanskrit has disappeared as in Panjabi Imperative 1st person plural *parhīe*, *callīe*, *kharīe* etc., while H. *kījīe*, *dījīe*, *pījīe*, *hūjīe*, *lījīe*, etc. (but P. *karīe*, *daīe*, *pīvīe*, *hoīe*, *laīe*, etc.) are due to the change *y* > Pkt. *j* (*ij*); cf. S. *parhīje*, *parheje*, G. *parhaje*, Mw. *parhijai* < Apabh. Pkt. *padhijjahi*, *padhejjahi*.

P. *da:j* 'dowry' < Skt. *daya* shows *y* > *j*. But [y] in many words like Skt. *nyāya*, *adhyāya* etc. elides in Panjabi so that we have *nyā:* 'justice', *dhya:* 'chapter', etc. On the analogy of these the Arabic *ra:y* 'opinion' and *sarā:y* 'inn' also drop their *y*, though not intervocal, to become *ra:*, *sarā:* in Panjabi. From this it would appear that the tendency to elide a non-initial single [y] is still very strong in Panjabi.

140. An intervocal [v] when followed by a long vowel, original or resultant, is elided in Hindi and Panjabi both; thus H. *byā:h*, P. *vyā:h* 'marriage' < OIA. *vivā:ha*; P. *dei:* 'used in ladies' name' < OIA. *devi:*; H. *ba:is*, P. *ba:i* 'twenty two' < Pkt. *va:vi:sam*, *va:vi:sa* < OIA. *dva:vimśati*; H. *ikkī:s*, P. *ikkī:* 'twenty one' < Pkt. *ekka:vi:sai* < OIA. *ekavimśati*; H. *te:is* or *te:is*, P. *te:i* 'twenty three' < Pkt. *te:vi:sam*, *te:vi:sa* < *trayavimśati* (Skt. *trayovimśati*); similarly in all the compound numerals formed with *vimśati* > Pkt. *vi:sa:* (with a resultant [i:]).

Before a short 'a', the [v] following a long vowel becomes [u] and the adjacent short vowel coalesces with [u] in Panjabi. Hindi, on the other hand, usually preserves the [v]. Thus P. *jhi:ur*, (Doa. P. *jhi:r*) < Skt. *dhi:vara*, but H. *jhi:var* 'water-bearer'; P. *sŋ* < *saṇa* < *sa:uṇ* < Skt. *śra:vaṇa*, but H. *sarvan* 'name of a month'; P. *dēor* (Doa. P. *der*) < *deur* < Skt. *devara*, but H. *devar* 'husband's younger brother'.

In H. *ama:vas* or *ma:vas* < Skt. *ama:va:ya:* [v] is preserved as is expected but P. *massya:* shows its elision.

H. *nu:p*, P. *lu:p* 'salt' go back to Pkt. *loṇa* < Skt. *lavaṇa* with a subsequent closing of [o] which comes from *au* < OIA. *ava*.

INITIAL, r, l

[r, l] have also been classified as *antahsthas* by Sanskrit grammarians. But these sounds are essentially consonants which

sometimes become vowels or assume the value of vowels. According to Sanskrit grammar [r] is a cacuminal sound and [l] is made by making the dental contact.³⁸ Although Sanskrit has both [r] and [l], the earlier Vedic, like Avesta, had only [r] sound which represented Indo-European *r and *l both. Thus a confusion of these two sounds had started at a very early period, probably in the Indo-Iranian stage. The opposite eastern tendency to confuse r into l in Indo-Aryan, which later resulted in the elimination of the r sound in Magadhī Prakrit, had also its beginning quite early but not much earlier than the later Vedic period.³⁹ In Sanskrit which has r and l both, there must have been a mix-up of words of the opposing r and l dialects. Thus whereas sometimes l is found for Vedic r and vice versa, there are words with r and l both without difference in meaning; e. g. *roman*, *loman* 'soft hair'; *rekha*, *lekha* 'line'; *rohita*, *lohita* 'red' etc.

141. Hindi and Panjabi generally retain the OIA r and l, though from the point of articulation, these sounds have become alveolar in both the languages. Thus we have H. *raś* and *rassi*;⁴⁰ P. *rassi* 'string' (Skt. *raśmi*); H., P. *raś* 'night' (Skt. *raśtri*); H. *raś*, P. *raś* 'night' (Skt. *rajanī*); H. *laś*, P. *laś* 'modesty' (Skt. *lajjā*); H. *laśh*, P. *laśh* 'lac' (Skt. *lakṣa*); H. *liśh* (Skt. *likṣa*), etc. But H. *lejurī* and P. *laś* 'rope' (Skt. *rajju*) show l for r, which change probably goes back to MIA and is due to interdialectal mix-up or borrowing in that stage. The common H., P. *laś* 'he may fight' (Skt. *raśati*, Mg. *laśai*) should be a borrowing from Mg. Pkt. in MIA stage.

142. Of the OIA alternatives *roman* and *loman*, only the form with r existed in the parent Prakrit of Hindi from which come *roā* 'soft hair on the body' and *ruā* 'cotton' in Hindi. The parent Prakrit of Panjabi, on the other hand, had both the forms, perhaps to distinguish the meaning; thus P. *rū* 'cotton' and *lū* 'soft hair on the body'.

38. ऋदुरषाणां मूर्ध्ना, लुलुजसानां दन्ताः ।

39. In the X Maṇḍala of the R̥gveda l is found for r in, *maluc*, *labh*, *loman*, etc. The first notice of the eastern habit of pronouncing r as l has been taken in the Brahmapa story of the Asuras that they mispronounced the Sanskrit word *arayaḥ* as *alaya* or *alavo*.

40. This form with short a is evidently a loan from Panjabi.

P. *liḥ* 'line' (< OIA. *lekhaḥ*) has no corresponding word in Hindi from either of the alternatives *lekhaḥ* and *rekhaḥ*. H. *rekḥ* 'line' is evidently a *semi-tatsama* word. Similarly *lik* 'line', common to both, is a *semi-tatsama*, probably a recent loan from Panjabi, carried through Urdu into Hindi.

143. The exceptional change *l* > *n* appears in Hindi and Panjabi both, though more commonly in the colloquial speech, e. g. H. *nuṁ* < Skt. *lavāṇa* (but P. *luṇ*); P. *√naṅghna*: beside *laṅghna*: 'to cross' < Skt. *laṅghate*. This may be due to the influence of the proximate nasal or to the occasional interchange of *l* and *n* as in E. H. *naṅgoṭ* for *laṅgoṭ* or *lāgoṭ* < Skt. *liṅgapaṭṭa* (Mg. *liṅgavatṭe*), *liḥa*: for *nīḥa*: < Skt. *nīḥa*; P. *lalaṛi*: for *nīḥaṛi*: < Skt. *nīḥaṛi*; H. *nīḥaṛi* < Port. *liḥaṛi*; P. *lalaṛi*, however, preserves *l*.

INTERVOCALIC *r*, *l*:

144. OIA intervocalic *r*, *l* have, as a rule, come down unchanged to Hindi and Panjabi except that in a few words *l* is found for *r*. Thus we have the OIA *r* in such cognate words as H. *bisarna*: P. *vissarna*: 'to forget' (Skt. *vismarati*); H. *sasur*, P. *sōhra*: 'father-in-law'; the common H., P. *kare* 'he may do' (Skt. *karoti*); *patthar* 'stone' (Skt. *prastara*); *chura*: 'knife' (Skt. *kṣura*); *khīr* 'rice milk dish' (Skt. *kṣīr*) etc. and the OIA. *l* in common H., P. *phal* 'fruit' (Skt. *phala*); *dol* 'water-vessel' (Skt. *dola*); *doli*: 'palanquin' (Skt. *dolika*); H. *baḥl*, P. *vaḥl* 'hair' (Skt. *vaḥla*); H. *palas*, P. *palaḥ*: 'kind of tree' (Skt. *palaśa*); H. *pīpal*, P. *pīppal* 'pipal tree' (Skt. *pippala*), etc.

145. In most of the cases where *l* appears for Sanskrit *r* in Hindi and Panjabi, the change *r* > *l* goes back to MIA; e.g.

Skt. *haridra*: > Pkt. *halidda*: > H., P. *haldi*:; Skt. *catvaṛimśat* > Pkt. *cattaḥliṣa* > H., P. *caḥliṣ* 'forty'; Skt. *dvaṛcatvaṛimśat* > Pkt. *vaṛaḥliṣaṁ* > H. *bayaliṣ*, P. *batali*: 'forty two'; Skt. *pañcacaṛvaṛimśat* > Pkt. *pannacattaḥliṣa*: > H. *pāṭaliṣ*, P. *pantali*: 'forty five', etc. The MIA words with *l* for *r* come from the Eastern Prakrit Magadhī as a result of dialectal intermixture in MIA.

146. In a few words *l* changes to *r* in Hindi and Panjabi, e.g. H. *savera*: P. *saver* 'morning' (Skt. *savala*:); H. *āber*, P. *aver* 'late' (Skt. *avela*:); H. *ber*, P. *ver* 'time' (Skt. *vela*:), etc.

INITIAL SIBILANTS:

147. Of the OIA sibilants [ś, ṣ, s] while the Eastern Prakrit had only [ś], there was [s] only in the Western Prakrit. Thus the [s] in

Śaurasēnī Prakrit stands for all the three sibilants alike. Hindi and Panjabi, like their prototypes, follow the example of Śaurasēnī. In recently borrowed *tatsamas* and *semi-tatsamas*, however, a palatal ś is pronounced for the OIA cerebral ś and the palatal ś both.

148. Initially, Hindi and Panjabi both have, as a rule, s for OIA s, ś and ṣ in the words coming down through MIA.

Examples:

[s] for OIA [s]:

- H. *satt*, P. *satt* 'seven' < MIA. *satta* < OIA. *sapta* ;
 H. *sāp*, P. *sapp* 'snake' < MIA. *sappa* < OIA. *sarpa* ;
 H. *sac*,⁴¹ P. *sacc* 'truth' < MIA. *sacca* < OIA. *satya* ;
 H. *sattar*,⁴² P. *sattar* 'seventy' < MIA. *sattari*, *sattati* < OIA. *saptati* ;
 H. *sab*, P. *sab* 'all' < MIA. *savva* (*sabba*) < OIA. *sarva* ;
 H. *sa:ṛhe*, P. *sa:ṛdhe*⁴³ 'increased by half' < MIA. *saddha* < OIA. *sa:rdha*.

[s] for OIA. [ś]:

- H. *sa:g*, P. *sa:g* 'leafy vegetable' < MIA. *sa:ga* < OIA. *śa:ka* ;
 H. *siras*, P. *sari:ḥ* 'kind of tree' < MIA. *sirisa* < OIA. *śirisa* ;
 H. *su:na:*, P. *sunna:* 'empty' < MIA. *sunna* < OIA. *śu:nya* ;
 H. *si:kḥ*, P. *sikkḥ* 'advice' < MIA. *sikkha* < OIA. *śikṣa:* ;
 H. *si:g*, P. *siṅg* 'horn' < MIA. *siṅga* < OIA. *śrṅga* ;
 H. *sukha:*, P. *sukka:* 'dry' < MIA. *sukka* < OIA. *śuṣka* ;
 H. *sehra:*, P. *sehra:* 'chaplet' < MIA. *seharaa* < OIA. *śekhara* ;
 H., P. *sō* 'hundred' < MIA. *sṛa* < OIA. *śata* ;
 H. *sa:s*, P. *sass* 'mother-in-law' < MIA. *sassu* < OIA. *śvaśru:* ;
 H., P. *sa:la:* 'wife's brother' < MIA. *sa:laa* < OIA. *śya:laka* ;
 H. *sā:vlā:*, P. *sōla:* 'dark' < MIA. *sa:valaa* < OIA. *śya:mala* (ka).
 H. *sun* (na:), P. *suṅ* (na:) 'to hear' < MIA. *√suṇa* < OIA. *√śru* (śrṇoti).

[s] for OIA. [ṣ]:

- H. *solah*, P. *solā:* 'sixteen' < MIA. *solasa* < OIA. *soḍaśa* ;
 H. *sa:ṭh*, P. *saṭṭh* 'sixty' < MIA. *saṭṭhi* < OIA. *ṣaṭi*.

41. Preservation of short a is the result of Panjabi influence. Similarly in *sab*.

42. a with tt shows Panjabi influence.

43. Lengthening of MIA. a after s is due to Hindi influence.

But in other numerals *ch* appears for Sanskrit *ṣ* in both the languages and it goes back to MIA, e.g. H. *chah*, P. *che* 'six' < MIA. *chah* (Skt. *ṣaṭ*); H. *chattis*, P. *chatti*: 'thirty six' < MIA. *chattisaṃ*; (Skt. *ṣattriṃśat*); H. *chabbis*, P. *chabbi*: < MIA. *chavviṣaṃ* (Skt. *ṣaḍviṃśati*), etc. [*ch*] in these cases may be explained by assuming such OIA form as **kṣaṣ* for Skt. *ṣaṣ*.

INTERVOCALIC SIBILANTS :

149. Intervocalic *ś*, *s*, *ṣ* are treated differently in Hindi and Panjabi. While the former has [*s*] for all the three sibilants, the latter reduces them to [*h*] which usually becomes a tone. Thus OIA, *ś* > H. *s*, P. *h* :

H. *sasur* 'father-in-law' < OIA. *śvaśura*, but P. *sChra*: < *sahura*;

H. *paca:s* 'fifty' < OIA. *pañca:śat*, but P. *pāja:h* [*pājā:*];

H. *sādesa*: 'message' < OIA. *sandeśa*, but P. *saneha:*, *saneha:*;

H. *kos* 'one and a half mile' < OIA. *kroś*, but P. *koḥ* [*kò:*];

H. *sasa*: 'hare' < OIA. *śaśaka*, but P. *səzha:*, *seha:*;

H. *phā:s* 'snare' < OIA. *paśa*, but P. *pha:ha*: or *pha:ha:*;

H. *pala:s* 'kind of tree' < OIA. *palaśa*, but P. *pala:h* [*palā:*].

P. *das* 'ten' < OIA. *daśa* should be a loan from Hindi; cf. Lah. *dah*.

H. *daha:i*, on the other hand, is a loan from Panjabi.

H. *assi*: 'eighty' (Skt. *aśīti*) shows Panjabi influence. The original form appears to be **aśīti* (cf. Av. *astāiti*) from which comes *ss* in Panjabi *assi*: and in the compound numerals formed by it. On the other hand, long *a*: in Panjabi *tira:ssi*: 'eighty three', *cura:ssi*: 'eighty four', *chya:ssi*: 'eighty six' is due to Hindi influence.

[*h*] in H. *barah* 'twelve', *terah* 'thirteen', *cōdah*, 'fourteen', *pandrah* 'fifteen' (< *dvādaśa*, *trayadaśa* (trayodaśa), *caturdaśa*, *pañcadaśa*) etc. goes back to MIA. *h* < *s* < OIA. *ś*. In P. *yarrā:*, *barā:*, *terā:*, *cōdā:*, *pandrā:*, etc. the MIA. *h* is, however, lost leaving no tonic effect.

[*s*] in P. *des* (Skt. *deśa*), *a:s* (Skt. *aśa:*), *na:s* (Skt. *naśa*), *jas* (Skt. *yaśas*) and a few other exceptions is due to the result of dialectal intermixture.

P. *masa:n* 'cremation ground' may be a loan from Hindi.

OIA. $s > H. s, P. h, h :$

H. *asa:ṛh* 'name of a month' < OIA. *aśa:ṛh*, but P. *ba:ṛh*.

H. *pu:s* 'name of a month' < OIA. *pausa*, but P. *poh*.

H. *siras* 'kind of tree' < OIA. *śiriśa*, but P. *saṛi:h*.

H. *tus* 'husk' < OIA. *tuśa*, but P. *toh*.

H. *ba:sath* 'sixty two' < OIA. *dvaśaṣṭi*, but P. *ba:ṭh* (< *ba:haṭ*).

In H. *maś* 'black beans' < OIA. *maśa* we find $s < ś$ which is irregular. The word may be a recent loan or *semi-tatsama*, the alternative *urd* or *uṛd* being more common. Panjabi has regular *mā:h* < *mā:h* < *maśa*.

In the *semi-tatsamas* Hindi and Panjabi both show [kh] for [s], e.g. H. *bha:kha*, P. *bha:kha* < Skt. *bhaśa*; H., P. *santokh* < Skt. *santośa*; H. *dokh* (*dos* also) < Skt. *dośa* etc., whereas in the *tat-samas* [ś] is pronounced for [s], e.g. *bha:śa*, *santoś*, *doś*, etc.

OIA. $s > H. s, P. h, h :$

H. *gha:s* 'grass' (Skt. *ghaśa*), but P. *gha* < *gha:h*.

H. *musal* 'pestle' (Skt. *mūsala*), but P. *mohla*.

H. *ras* 'juice' (Skt. *rasa*), but P. *roḥ* (< *rauh* < *rahu* < Apabh. *rasu*), also *ras* which may be a loan from Hindi.

H. *sā:s* 'breath' < Skt. *śvaśa*, but P. *sa:h* < *sa:h* beside irregular *swa:s* which appears to be *semi-tatsama*.

h for *s* in H. *mahina* 'month' is not normal for Hindi. On the other hand, *s* in P. *masā:d* 'end of a month' (Skt. *maśa:nta*) is irregular for Panjabi.

In H. *ikahattar* 'seventy one', *bahattar* 'seventy two', *tihattar* 'seventy three', *cōhattar* 'seventy four' (< *ekasaptati*, *dvaśaptati*, *trisaptati*, *catuṣsaptati*) etc. the *h* goes back to MIA. The change ($s > h$) being characteristic of the North-western Prakrit, the introduction of *h* in the parent Prakrit of Hindi may be regarded as due to dialectal intermixture.⁴⁴

INITIAL *h* :

150. The OIA initial *h* followed by a vowel is retained in both Hindi and Panjabi. In some western dialects of Panjabi, especially the dialect of Wazirabad, the *h* is followed by a vowel in low tone. Thus H. *ha:th*, P. *hatth*, Waz. P. [*h* [^] *tḥ*] 'hand' (Skt. *hastā*), H. *haṭ*, P. *hatt*, Waz. P. [*h* [^] *t:*] 'shop' (Skt. *hatṭa*), etc.

44. Chatterji : *Indo-Aryan and Hindi*, p. 88.

INTERVOCAL h :

151. OIA intervocalic *h* remains in Hindi and the eastern dialects of Panjabi, but is lost in the western dialects of Panjabi, giving tone-effects to the neighbouring vowel, e. g. H. *loha:*, P. *loha:* or [*lòa:*] 'iron' (Skt. *loha*); H. *bā:h*, but P. *bā:h* 'arm' (Skt. *ba:hu*), etc.

Treatment of OIA Conjunct Consonants

MIA ASSIMILATION OF CONSONANTS :

152. The assimilation of conjunct consonants is a regular phenomenon in Middle Indo-Aryan. According to Dr. Chatterji, MIA assimilation is the result of two things which occurred in Middle-Indo-Aryan, namely, the loss of the root sense, and the tendency to pronounce open syllables.⁴⁵ The latter is borne out by the authors of the *Prātisākhya*s, the minute observers of speech-habits of the late OIA period, who have noted down the new habit of pronouncing a final stop consonant or one before another consonant in an incomplete or checked manner (*sannatara*, *pīḍita*) by the name of '*abhinidhāna* or *sandhāraṇa*.'⁴⁶ Thus in a group stop+stop preceded by a vowel the first stop was not fully articulated, i. e. it consisted of on-glide and occlusion only and lacked release with the explosion, the distinctive characteristic of a stop. The natural outcome of this habit of pronouncing the first stop without full explosion, which brought about a laziness of the tongue, could only be the gradual loss of the individuality of such stops and an inevitable assimilation to the succeeding stops resulting into long consonants, e. g. OIA. *rak-ta* > *ra-kta* > *ra-^hta* > MIA. *ra-tta* ; CIA. *bhak-ta* > *bha-kta* > *bha-^hta* > MIA. *bha-tta*, etc.

153. The long or double consonants thus produced, while remain unchanged in Panjabi except when falling in an unaccented syllable or when final and preceded by a long vowel, have been simplified in Hindi to single consonants with their length, however, transferred to the preceding vowel. Thus we notice:

OIA. **utkhala* > *ukkhala* > P. *ukkhal*, but H. *ukhal* 'mortar'

OIA. *bhakta* > Pkt. *bhatta* > P. *bhatt*, but H. *bha:t* 'rice'

OIA. *sapta* > Pkt. *satta* > P. *satt*, but H. *sa:t* 'seven'

45. Ibid p. 79.

46. A. V. *Prātisākhya* I, 43, 44.

OIA. *tapta* > Pkt. *tatta* > P. *tatta*; but H. *tata*: 'hot'.

OIA. *dugdha* > Pkt. *duddha* > P. *duddh*, but H. *duddh* 'milk'.

OIA. *śabda* > Pkt. *sadda* > P. *sadda*: 'invitation', O.H. *sad*.

154. In the unaccented syllables, the preceding vowel is, however, not lengthened in Hindi after simplification of the long or double consonant, e.g. $\sqrt{\text{ugál}}$ (na:) 'to vomit' < $\sqrt{\text{juggala}}$ -(*uggalai*) < *ud-√gal* (Skt. *udgalati*), cf. P. *úggal* (na:); $\sqrt{\text{utár}}$ (na:) 'to get down' < $\sqrt{\text{uttara}}$ -(*uttarai*) < *ud-√tar* (Skt. *uttarati*), cf. P. *úttar* (na:); $\sqrt{\text{ubbár}}$ (na:) 'to swell' < $\sqrt{\text{ubbhara}}$ -(*ubbharai*) < *ud-√bhar* (Skt. *udbharati*), cf. P. *úbbhar* (na:); $\sqrt{\text{ughár}}$ (na:) 'to become clear' < $\sqrt{\text{ugghaḍa}}$ -(*ugghaḍai*) < *ud-√ghaṭ* (Skt. *udghatate*), cf. P. *úgghar* (na:); $\sqrt{\text{ucát}}$ (na:) 'to be separated as skin from flesh' < $\sqrt{\text{uccaṭa}}$ -(*uccaṭai*) < *ut-√caṭ* (Skt. *uccaṭati*), cf. P. *úccaṭ* (na:).

155. In some cases, accented syllables also do not show a long vowel in Hindi, e. g. *dúbla*: 'feeble' < *dubbala* < OIA. *durbala*; *újla*: 'bright' < *ujjala* < OIA. *ujjala* (*ud-jvala*); $\sqrt{\text{Jug}}$ (na:) 'to grow' < *ugga* < OIA. *udgata* (*ud-√gam*), cf. P. *√ugg* (na:), etc. These exceptions may be explained as the result of Panjabi influence.

156. The long consonants when falling in a final syllable and preceded by a long vowel become simplified in Panjabi, but only, after the loss of the final vowel. Thus OIA. *kṣetra* > *khetta* > P. *khet* 'field'; OIA. *rātri* > *rātti* > P. *raṭ* 'night'; OIA. *drakṣa* > *daḥkha* > P. *daḥh* 'grape'; OIA. *kaṣṭha* > *kaṭṭha* > P. *kaṭh* 'wood', etc.

Hindi, also, has these words *khet*, *raṭ*, *baṭ*, *daḥh*, *kaṭh*, etc. but they come through a different process. First, the long vowels were shortened in MIA stage, and then, the resultant were again lengthened in Hindi to compensate the loss of the length of the consonants after their simplification, e. g. *kṣetra* > *khēta* (>* *khēta*) > *khēta* > *khet*; *vairta* > *vatta* > *vatta* (>* *bata*) > *baṭa* > *baṭ*; *rātri* > *rātti* (>* *rati*) > *rāti* > *raṭ*; *drakṣa* > *dakḥha* (>* *dakha*) > *daḥkha* > *daḥh*; *kaṣṭha* > *kaṭṭha* (>* *kaṭha*) > *kaṭha* > *kaṭh*.

If the theory of compensatory lengthening is correct we must assume a stage in-between MIA and Hindi when the long consonants were simplified to single ones and before the preceding vowels were lengthened to compensate the loss of their length.

STOP PLUS NASAL AND NASAL PLUS STOP :

157. The treatment of nasal+stop differs from that of stop+nasal in that while the latter turns itself into a long consonant which is later simplified to a single consonant in Hindi, but remains unmodified in Panjabi, the former has its first member (i. e. nasal) reduced to the nasality of the preceding vowel in Hindi, but in Panjabi the nasal survives and even influences the following unvoiced stop by lending its voice.

Stop+nasal :

158. $k+n > kk$: OIA. śakn(oti) $> sak$ → $> P.$ sak(na:) 'to be able'; the same in Hindi with a clear impact of Panjabi. Simplification of the long consonant after short vowel, on the other hand, is due to Hindi influence, cf. laggana: √sakna: is possible from OIA. śakyate also.

$g+n > gg$: OIA. agni $> MIA.$ aggi $> P.$ agg, H. a:g; OIA. lagna $> lagga > P.$ lagga; ; H. laga: shows Panjabi influence. OIA. nagna $> nagga > P.$ naṅga: (<* namga:) 'naked'; H. naga:, but also naṅga: which should be a loan from Panjabi.

OIA. bhagna $> MIA.$ bhagga⁴⁷ $> H.$ bha:ga:⁴⁸ 'having run away'. P. bhajja:, √bhajj come from OIA. bhajyate.

$t+n > tt$: OIA. sapatni: $> savatti > sauti > H.$ sOt 'co-wife' but in P. sOkkan, if from the same, $kk < t+n$ is difficult to explain.

In the groups $j+n$, $d+n$, $t+m$, however, the first is assimilated to the second.

The change $jñ > ṇ$, n goes back to MIA cerebral ṇṇ (due to its tendency for cerebralisation). Thus OIA. ra:jñi: $> MIA.$ raṇṇi: $> P.$ raṇi:⁴⁹, H. ra:ni: 'queen'; OIA. yajñopavita $> H.$ janeu: 'sacred thread', the same in Panjabi, but jajju: also which appears to have come through jajñu:; OIA. vijñaptika: $> vinnattia > H.$ binati:, binti:, P. benti: 'request'.

The change $dn > nn$ goes back to OIA, e. g. Skt. bhinna $< bhid+na$, chinna $< chid+na$; anna $< ad+na$, klinna $< klid+na$, etc.

47. jai bhagga: gharu entu-Hc.

48. Ambala Hindustani has bhagga: with short a and long consonant, which reveals the Panjabi tendency, although Panjabi has bhajja: instead of bhagga:.

49. The long a: was not shortened in the parent Prakrit of Panjabi. Dr. Jain considers it to be from rajjani: (154) which is probable but more hypothetical.

P. chann, H. chain 'thatch' < OIA. channa < chad+na; P. sinna: 'sweaty' < OIA. svinna < svid-na; H. pasinna: 'perspiration' < Skt. prasvinna < pra-svid-na.

W.P. runna: 'wept' for roṣa; should be from a late analogical form* runna < rudna.

The change tm > pp goes back to MIA, e.g. H. apna; P. apna; a:pna: < MIA appana < OIA. atmanah; H, P. a:p < appa, a:ppa < OIA. atma:

Nasal+stop :

159. nk: Hindi as a rule, reduces the nasal to the nasality of the preceding vowel which is lengthened to compensate the loss. But in the group nk the unvoiced k sometimes becomes the voiced g due to the influence of the nasal which along with the preceding short vowel is retained as in Panjabi. Thus we have H. √āk 'to estimate' (Skt. √aṅk); bākka: < Pkt. vampa (Skt. vakra), (cf. P. viṅga:) beside kaṅga 'bracelet' (Skt. kaṅkaṇa), kaṅga:l 'penniless' (Skt. kaṅkaḷa); palaṅg 'bedstead' (Skt. paryaṅka), etc. The latter (kaṅga etc.) appear to be due to the influence of Panjabi which has regularly such forms with short vowel, and voiced stops for the original unvoiced stops.

160. nkḥ: The group nkḥ in most of the cases is not original, but is due to a spontaneous nasalisation at sometime or the other. OIA had a number of words having two forms, one with the nasal and the other without it, e.g. ukhati-unḥkhati; makhati-maṅkhati, etc. Most probably it was a dialectal variation. MIA had also double forms like dassana-dansana (Skt. darśana); pakkhi:paṅkhi: (Skt. pakṣi:) jappai-jampai (Skt. jalpati) etc, which shows that some dialects had forms with nasal, while others were without it. The MIA forms with nasal alone in the words where there was no nasal in OIA should be assumed to have come from a nasalising dialect. Likewise, it may be assumed that the NIA forms with nasal, like ā:kḥ pā:kḥ in Hindi, where MIA has recorded no nasal, come from a nasalising MIA dialect. The tendency towards spontaneous nasalisation seems to have been stronger in some dialects of MIA than in OIA. The number of nasalised forms is exceedingly large in NIA, and in spite of interdialectal mixture one can distinguish a NIA language descending from a nasalising dialect from another which descends from a non-nasalising one.

The tendency to insert a nasal before a consonant or a consonant-group being thus very old, the nasal before *kh* or *kkh* in Hindi and Panjabi should normally go back either to OIA or to MIA, and, rarely, it may be considered to be an independent development, i.e. the result of analogy or some other factor. For instance, H. *āk̄h* 'eye' in face of P. *ak̄kh*, Pkt. *akkhi*, Skt. *ak̄ṣi* appears to be an independent development, but it comes from a nasalising MIA dialect, the parent Prakrit of Hindi, which had *ānkhi* for the common Prakrit form *akkhi*, the source of P. *ak̄kh*: cf. Ambala dialect *ānk̄h*. Similarly H. *paṅkha*, P. *pakkha*: 'fan' (Skt. *pakṣa*) come from two different dialects. P. *phaṅgh* 'feather' may, however, be from the borrowed **paṅkha* in Pkt. stage or by contamination with Skt. *paṅkha*.

In the treatment of the group *ākh* Hindi and Panjabi differ in the following points :

(1) In Hindi *kh* after the nasal remains unchanged, while in Panjabi it becomes voiced with usual modification of the tone as a result of the loss of aspiration.

(2) In Panjabi the short vowel before the nasal remains unchanged, but in Hindi, the nasal being reduced, it is lengthened as a compensatory measure.

(3) In Panjabi the nasal remains, though shortened, a part of it being transferred to nasalise the preceding vowel, while in Hindi it is reduced to the nasality of the preceding vowel.

Examples :

H. *pā:kh* 'petal' < Pkt. **paṅkha* (Skt. *pakṣa*), but P. *phaṅgh* 'feather'.

H. *kā:kh* 'arm-pit' < Pkt. *kaṅkha* (Skt. *kakṣa*), cf. P. *kacch*.

P. *pī:gh* 'swing' (Skt. *preṅkha*).

P. *saṅgh* 'throat' (Skt. *śaṅkha*).

H. *ū:ghna*: 'to nod' (Skt. *uṅkhati*), *sū:ghna*: 'to smell' (OIA. *śrīṅkhati*), however, show *gh* < *kh* which perhaps goes back to MIA.

kh after the nasal in OIA. *śrīṅkhala*: loses its aspiration in H. *sā:kal* 'chain', while it gains voice for the loss of aspiration in P. *saṅgal*.

161. *ṅg*, *ṅgh*: H. *ā:gan* 'court-yard' (Skt. *aṅgana*), *sī:g* 'horn' (Skt. *śrīṅga*), *bhā:g* 'an intoxicating plant' (Skt. *bhaṅga*), *hi:g* 'asafoetida' (Skt. *hiṅgu*), *jā:gh* 'thigh' (Skt. *jaṅgha*), *lā:ghua*: 'to cross' (Skt. *√laṅgh*) etc. obey the general rules of vowel-lengthening and reducing the nasal in Hindi (cf. P. *sīṅg*, *hiṅg*, *bhaṅg*, *jaṅgh*, *laṅghna*).

caṅga: 'good' (Skt. caṅga), raṅg 'colour' (Skt. raṅga) must be loans from Panjabi. H. ūgli: 'finger' may be the result of Panjabi influence; cf. P. uṅgal, uṅgli:

162. ṅc, ṅch: c, ch after the nasal become voiced in Panjabi regularly, while they remain unchanged in Hindi. The resultant jh < ch, however, brings about usual tone-change after losing its aspiration in Panjabi.

H. mā:ca:	P. mañja:	'bedstead' (Skt. mañca)
H. pā:c,	P. pañj	'five' (Skt. pañca)
H. sī:c,	P. siñj	'to irrigate' (Skt. siñcati)
H. cōc,	P. cuñj	'beak' (Skt. cañcu)
H. kēculi:	P. kuñj	'snake's slough' (Skt. kañcuka)
H. √pōch,	P. √pū:jh [pū':j]	'to wipe' (Skt. proñchati)
	P. √hū:jh [hū':j]	'to collect' (Skt. uñchati).

163. ṅj: Lengthening the vowel before ṅj with reduction of the nasal is regular in Hindi as is the retention of the group in Panjabi, e.g. H. mū:j, P. muñj 'kind of grass' (Skt. muñja:); Dial. Hindi √bhi:j 'to be drenched' beside the Standard √bhi:g, but P. √bhi:jj (Skt. abhi-√añj); H. √ā:j 'to smear' (Skt. √añj). H. añjan 'collyrium' (Skt. añjana) is evidently a loan. H. piñjra: (Skt. pañjara) beside the dialectal pījra: which is regular, should also be a loan, cf. P. piñjra: or pījra:.

164. ṅjh: ṅjh obeys the general rules of vowel-lengthening and reducing the nasal in Hindi, and of retaining the group with change of tone for the loss of aspiration in Panjabi, e.g. H. sā:jh, P. sañjh 'evening' (Skt. sandhya:, Pkt. samjha:-sañjha:), H. bā:jh 'barren' < (Skt. vandhya:, Pkt. vamjha:-vañjha:). P. bā:jh is evidently a loan from Hindi.

165. ṅt, ṅh, ṅd: t, th after the nasal become voiced in Panjabi regularly with usual tone-change for the loss of aspiration in the case of the latter, while they remain unchanged in Hindi with the nasal reduced to the nasality of the preceding vowel, e.g. P. kaṇḍa:, H. kā:ṭa: 'thorn' (Skt. kaṇṭaka); P. √vaṇḍ, H. √bā:ṭ 'to divide' (Skt. vaṇṭate); P. suṇḍh, H. sōṭh 'dry ginger' (Skt. śuṇṭhi); P. kḥuṇḍha: 'blunt' (Skt. kuṇṭha); H. kā:ṭha:, P. kaṇḍha: 'bank' (Skt. kaṇṭha) etc.

nd usually becomes nn < nṇ in Panjabi, e.g. ka:ṇna: 'reed' (Skt. kaṇḍa); ḍann 'punishment' (Skt. ḍaṇḍa); pinna: 'ball' (Skt. piṇḍa); √munn 'to shave' (Skt. √muṇḍ); 'kunna: 'big cup' (Skt. kuṇḍa); ganna: 'sugarcane' (Skt. gaṇḍa), etc. but in many cases it remains unchanged also, e.g. aṇḍa: 'egg' (Skt. aṇḍa), but a:nna: 'eye-ball'; gandoa: or gāḍoa: 'earth worm' (Skt. gaṇḍu:pada); piṇḍa: 'body' (< Skt. piṇḍa); suṇḍ 'elephant's trunk' (Skt. śuṇḍa); khaṇḍ 'sugar' (Skt. khaṇḍa); raṇḍi: 'widow, prostitute' (Skt. raṇḍa:), but rann 'wife'; muṇḍa: 'boy' beside munna: 'child'; the latter in Hindi also which is evidently a loan from Panjabi. P. kuṇḍi: 'mortar' (Skt. kuṇḍa) may be a loan from Hindi, cf. H. kūḍi:.

Hindi has the usual vowel-lengthening and the reduction of the nasal in √mūḍ (Skt. muṇḍ); sūḍ (Skt. śuṇḍa); khāḍ (Skt. khaṇḍa); √māḍ or √māḥ (Skt. √maṇḍ); kūḍi: (Skt. kuṇḍa); rāḍ 'widow' (Skt. raṇḍa:) etc. raṇḍi: 'prostitute' must be a loan from Panjabi. ḍāḍ 'stick, penalty' (Skt. ḍaṇḍa) beside ḍaṇḍa: 'stick'; the latter must be a loan from Panjabi. ganna: (Skt. gaṇḍa) is also a borrowing from Panjabi, cf. P. ganeriā:; E.P. ganderiā:; H. gāḍeriyā:.

ṇḍr is reduced to ḍ or ṛ with nasality transferred to the preceding vowel in Hindi, e.g. pōḍa: or pōṛa: 'sugarcane' (Skt. paṇḍraka); Panjabi has ponna:; E.P. poṇḍa:.

166. nt, nth: t, th after the nasal become voiced in Panjabi with usual modification of tone for the loss of aspiration in the latter. Hindi, on the other hand, has the usual reduction of the nasal to the nasality of the preceding vowel which is lengthened. Thus H. tā:t, P. tand 'thread' (Skt. tantu); H. ḍā:t, P. ḍand 'tooth' (Skt. danta); P. sā:d (Skt. śanti) in sukh-sā:d, but P. jant (Skt. jantu) in jīa-jant retains t.

Dial. H. pa:th (< pā:th) 'path', P. pandh 'journey, way' (Skt. pantha:h). The loss of nasality in H. pa:th is difficult to explain.

H. matha:ni:, P. madhani: 'churning stick' (Skt. manthana), lose the nasality of the nasalised vowel resulting from the loss of the nasal consonant on account of its falling in an unaccented syllable. Absence of long vowel in the Hindi form is also for the same reason.

nt̃h (> H. *ṁṭh*, P. *ṇḍh* > *ṇḍ* with change of tone) in OIA. *granthi* > H. *gāṁṭh*, P. *gaṇḍh* (*gaṭṭh* also) 'knot' was cerebralised in MIA stage, perhaps due to the influence of the cerebral *r* in its vicinity.

167. *ntr*: This group becomes *ṁt* < *nt* in Hindi and *nd*, *ndr*, *ṁd* or *ṁdr* in Panjabi, e.g. H. *āṁt*, P. *āṁd*, *aṁdar* 'intestine' (Skt. *aṁtra*); H. *nyota*: (after denasalisation), P. *neṁḍaṁ*, *neṁḍra*: or *nendra*: 'invitation' (Skt. *ni-mantra(ṇa)*); P. *jandra*, *janda*: 'lock' (Skt. *yantraka*); P. *mand* 'charm' (Skt. *mantra*), etc.

168. *nd*: *d* after the nasal is usually assimilated in Panjabi, while it remains unchanged in Hindi with the nasal reduced to the nasality of the preceding vowel. Thus, we have P. *cannan* beside *candan* 'sandal' (Skt. *candana*), but H. *candan* only (which shows Panjabi influence); P. *saneha*: (< *sanneha*:), H. *sādesa*: 'message' (Skt. *sandēśa*); H. *sēdur* (Skt. *sindura*) but P. *sandhur* 'vermilion', P. *nanaṁ*, H. *nanād* 'husband's sister' (Skt. *nanaṁda*: and *nananda*:).

169. *ndr*: The group becomes *ṁd* in MIA and then it is reduced to *ḍ* (i.e. *d* with the nasalised preceding vowel) in Hindi, and in Panjabi it becomes optionally *nn*, e.g. H. *cāḍ*, P. *cann*, *cand* 'moon' (Skt. *candra*), H. *cand* may be due to Panjabi influence.

170. *ndh*: *dh* after the nasal is usually assimilated in Panjabi with tone-effect due to the loss of aspiration, while in Hindi it remains unchanged and the nasal it follows is reduced to the nasality of the preceding vowel.

Examples:

P. *√bannh*, H. *√bāḍh* 'to bind' < OIA. *bandh* (*√badh*).

P. *√binnh*, H. *√bīḍh* 'to pierce' < OIA. *vindh* (*√vidh*).

P. *√rinnh* 'to cook' (< OIA*. *rindhati*); H. *√rāḍh* 'to cook' < OIA. *randh*—(*√radh*).

P. *sannh*, H. *sēdh* 'breach' (Skt. *sandhi*).

P. *annha*: 'blind' < OIA. *andha*.

H. *andha*: beside less common *āḍha*: may be due to Panjabi influence (cf. Amb. [andā:]). Similarly H. *kandha*: (Skt. *skandha*) beside *kāḍha*: (cf. P. *kandhaṁ*, *kanheṁ* < Skt. *skandhataṁ*).

171. *mp*: *p* after the nasal becomes voiced in Panjabi, while in Hindi it remains unchanged and the nasal it follows is reduced to the

nasality of the preceding vowel. Thus we have P. \sqrt{kamb} , H. $\sqrt{kā:p}$ 'to tremble' (Skt. \sqrt{kamp}); P. \sqrt{limb} 'to besmear' (Skt. \sqrt{limp}); P. *camba*: 'kind of flower' (Skt. *campaka*), etc. P. \sqrt{tumm} beside the regular \sqrt{tumb} 'to clean cotton, wool etc.' and H. \sqrt{turm} (Skt. \sqrt{trump}), show the change $mp > mm$. It appears that the change had occurred very early, at least before the NIA stage.

172. *mb*: OIA conjunct *mb* becomes *mm* in Panjabi. In some cases it, however, remains unchanged or becomes *mm* optionally; e.g. *nimm* 'neem tree' < OIA. *nimba*; *sem* 'flat beans' < OIA. *śimba*; *jammu*: 'kind of fruit' < OIA. *jambuka*; *palam* < \sqrt{palamm} 'to hang' < OIA. $\text{pra}\sqrt{lamb}$; \sqrt{cumm} 'to kiss' < OIA. \sqrt{cumb} ; *kuṛam*⁵⁰ 'child's father-in-law' < OIA. *kuṭumba*; but *lamba*: beside *lammā*: 'long' < OIA. *lamba*; *nimbu*: 'lemon' < OIA. *nimbuka*, not *nimmu*:

Hindi also shows $mb > mm$ which is simplified to *m* in cognates *nim*, *sem*, *jāmun*, \sqrt{cum} , dialectal *kuṭum* (< Skt. *kuṭumba*) beside *kunba*: 'family' and such others as \sqrt{vilam} 'to delay' (Skt. *vilambate*) etc.

Likewise, it retains the group *mb* in some cases,⁵¹ but not optionally, e.g. *lamba*: (also *lā:ba:*), but not *lamma*: (cf. E.H. *lām*); *nimbu*: (also *nību:*) but not *nimmu*: or *nīmu*: (cf. E.H. *nīmu:*); *kambal* < OIA. *kambala*; (cf. E.H. *kammal*). It has, however, *kamali*: which is a diminutive.

MIA. *mb* < OIA. *mr* which may have come through the insertion of a [b] between *m* and *r* in an early stage⁵² remains unchanged in Panjabi, e.g. *amb* < MIA. *amba* < **ambra* < OIA. *a:mra* 'mango'; *tamba*: < MIA. *tamba* < **ta:mbra* < OIA. *ta:mra* 'copper' etc., while in Hindi it is usually retained but is sometimes changed to *mm* with subsequent reduction of the nasal consonant in the first case and simplification to single *m* in the second, e.g. *tā:ba*: < MIA. *tamba* < **tambra* < OIA. *ta:mra*; *a:m* < MIA. *amba* < **ambra* < OIA. *a:mra*; *bā:bi*: < MIA. *vambī*: < **vambri*: < OIA. *vamri*:

173. *mbh*: The group becomes *mmh* or *mh* in Panjabi with subsequent tone-effect for the loss of aspiration, e.g. OIA. *stambha* > MIA. *thammha* > P. *thammh*, 'column'; OIA. *kumbhaka:ra* > MIA. *kummhaa:ra* > *kumhaa:ra* > P. *kumhya:r*, 'potter'; OIA. *sambha:-*

50. Single *m* in *sem* and *kuṛam* is due to its being final after a long vowel in the first case and in an unaccented syllable in the second one.

51. The words with *mb* are, in fact, loans from Panjabi.

52. Pischel 295.

layati > √samhāḥ 'to protect'. But we also find mb with modification of tone from which it appears that the parent Prakrit of Panjabi had preserved mbh also, e.g. khambha: 'column, pole' (Skt. skambha) beside less common khammha:; ula:mbha: 'complaint' (Skt. upa:lambha) beside ula:mmha:.

Hindi also shows both mh and mbh, but the former is less frequent; e.g. √samhāḥ beside √sābhāḥ and √sambhāḥ; jamhāḥ (Skt. jṛmbha:) beside jambhāḥ; √rābha: (Skt. rambhate), thambh, khambha:, kumha:r, etc.

In H. √tha:m 'to support' < stambh (Skt. √stabh) aspiration is, however, lost and the vowel before the conjunct is lengthened after the latter is simplified to a single consonant; cf. P. √thammh, √thambh.

NASAL+NASAL :

174. The double nasals whether original (OIA) or developed in the MIA stage have been retained in Panjabi except that all except mm become alveolar, e.g.

OIA nn:

OIA. anna > P. ann 'food'.

OIA. channa > P. chann 'thatch'.

MIA nn < OIA rn:

OIA. karṇa > MIA. kaṇṇa > P. kann 'ear'.

OIA. uṛṇa: > MIA. uṇṇa > P. unn 'wool'.

OIA. paṇa > MIA. paṇṇa > P. panna: 'leaf', but pa:n also which may be a loan from Hindi.

OIA. mm:

OIA. drama > P. damm 'price'.

MIA. mm < OIA rm, lm, mb, mn :

Skt. karma (n) > MIA. kamma > P. kamm 'work'.

Skt. carma (n) > MIA. camma > P. camm 'leather'.

OIA. gulma > MIA. gumma > P. gummā: 'collection'.

OIA. nimba > MIA. nimma > P. nimm 'neem tree'.

OIA. nimna > MIA. nimma > P. nimmā:, nimmhā: (also ni:mā:, nī:vā:) 'low, dim'.

MIA. nn, nn, ññ < OIA. ny, ny :

OIA. puṇya > MIA. puñña, punna > P. punn 'merit, charity'.

OIA. dhanya > MIA. dhañña, dhanṇa > P. dhann 'praiseworthy'.
OIA. śunya > sunna, suñña > P. sunna: 'empty', but suñja:
also.

OIA. kanyaka; kanya: > MIA. kañña, kañja > P. kañṇā: 'girl'
beside kañj, kañjaka:.

OIA. janya: > MIA. jañña > P. jann beside jañj 'marriage
party'.

Hindi has simplified double nasals to single ones with the usual
lengthening of the preceding vowels, e.g. chaṇ 'thatch'; kaṇ 'ear';
uṇ, 'wool'; daṇ 'price' beside damri; ; caṇ 'leather' beside camṇa;
kaṇ, 'work'; niṇ 'neem tree'; suṇa: 'empty', etc.

panna: 'leaf' must be a loan from Panjabi.

STOP+y:

175. In a group stop+y, when the stop was other than a dental,
y was assimilated in Middle Indo-Aryan. The double stops thus
produced have been simplified to single ones in Hindi, while in Panjabi
they remain double except when initial, or when final preceded by
a long vowel, or when falling in an unaccented syllable.

Examples:

k+y:

OIA. śikya > MIA. chikka > H. chīka; P. chikka: 'network
for hanging things'.

OIA. maṇikya > MIA. maṇikka > H. maṇik, P. maṇak 'gem'.

kh+y:

OIA. vya:khyana > MIA. vakkhaṇa > H. bakhaṇ 'description,
praise'.

OIA. a:khyami > P. a:kkhā: 'I may say'. Similarly a:kkhe, but
a:kh (II pers. sing.)

OIA. a:khyana > MIA. akkhaṇa > P. akhaṇ 'saying'.

g+y:

OIA. saubha:gya > MIA. suhagga > H. suha:g 'union with
husband', P. suha:g, suha:g (<P. Pkt. suha:gga).

OIA. *lagya(ati) > MIA. *lagga (di), lagga (i) > H. √ lag, P.
√ lagg 'to be attached.'

Short a in H. lagna; is due to Panjabi influence; cf. Dial. Hindi
la:ga; for laga; 'began'.

c+y:

OIA. pacya(te) > pacca->H., P. √ pac 'to be digested'.

OIA. rucya(te) > rucc->H., P. √ ruc 'to be pleasing'.

Hindi and Panjabi both seem to have influenced each other in these cases, the former in shortening or simplifying the long consonant and the latter in preserving the short vowel.

j+y:

OIA. jyestha > MIA. jēṭṭha (P. Pkt. jēṭṭha) > H., P. jēṭh 'name of a month'; jetha; jēṭṭha: 'elder' also respectively.

OIA. jyoti > MIA. joti > H., P. jot 'light'.

OIA. rajya > MIA. rajja, (P. Pkt. ra:jj) > H., P. ra:j 'rule'.

OIA. vaṇijya > MIA. vaṇijja > H. banij, P. vaṇaj, banaj 'trade'.

OIA. bhajya(te) > MIA. bhajja(i) > P. √ bhajj, H. √ bha:j 'to run away' beside St. √ bha:g (< MIA. bhagga < OIA. bhagna).

OIA. bhrjya(te) > MIA. √ bhujja(i) > P. √ bhujj 'to be parched'.

H. √ bhūj beside Standard √ bhuj, both transitive, perhaps come from such MIA forms as *bhuñjai (< OIA. bhrjjati).

t+y:

OIA. trutya(ti) > MIA. tuṭṭa(i) > P. √ tuṭṭ, H. √ tuṭ 'to break'.

OIA. sphutya(ti) > MIA. phuṭṭa(i) > P. √ phutt, H. √ phut 'to burst'.

ḍ+y:

OIA. jaḍya > MIA. jaḍḍa > H. ja:ṛa: 'winter, cold'.

The Powadhi dialect of Panjabi has ja:ḍḍa: which shows the retention of the double consonant and also of the long vowel which must have been preserved by the parent Prakrit of Panjabi.

p+y:

OIA. lipya(te) > MIA. lippa(i) > P. √ lipp, H. √ li:p 'to besmear'.

OIA. tapya(te) > MIA. √ tappa(i) > P. √ tap 'to be heated', the same in Hindi due to Panjabi influence. The simplification of the

long consonant, on the other hand, being not normal for Panjabi may be due to Hindi influence.

176. In groups formed by a dental stop followed by *y*, the latter, first, palatalised the former and, then, was assimilated to the resultant stop. The double palatals thus produced remain in Panjabi except when falling in an unaccented syllable, while in Hindi their usual treatment is to simplify them to single ones with subsequent lengthening of the preceding vowel.

Examples :

t+y:

OIA. *nṛtya*(ti) > MIA. *nacca*(i) > P. *√nacc*, H. *√na:c* 'to dance.'

P. *na:c* 'dance' must be a loan from Hindi.

OIA. *satya* > MIA. *sacca* > P. *sacc*, H. *sā:c* (dialectal) beside *sac* 'truth'; the latter being not normal for Hindi may be either a loan from Panjabi or the result of Panjabi influence.

Old H. *mi:cu*, *mi:c* 'death' < OIA. *mṛtyu*. Panjabi has no cognate word. *mṛt* 'death', common to both, is a loan from Arabic through Persian.

d+y:

OIA. *adya* > MIA. *ajja* > P. *ajj*, H. *a:j* 'today'.

OIA. *va:dya* > MIA. *vajja* (P. Pkt. *va:jja*) > P. *va:jja:*, H. *ba:ja:* 'musical instrument'.

H. *√baj*, P. *√vajj* (Skt. *va:dyate*) are difficult to explain. If the latter may be assumed to have come from **vadyate*, the former should be regarded as borrowed or imposed Panjabi form with short *a*.

OIA. *kha:dya* > MIA. *khajja* (P. Pkt. *kha:jja*) > H. *kha:ja:*, P. *kha:jja:* 'food'.

OIA. *khidya*(te) > MIA. *khijja*(i) > P. *√khijjh* (< *khijj*), H. *√khij*; also *√khij* 'to be annoyed' due to Panjabi influence.

OIA. *chidya*(te) > MIA. *chijja*(i) > P. *√chijj*, H. *√chi:j* 'to be worn out.'

Short *a* in H. *√upaj* 'to be born' < MIA. *uppajja*(i) < OIA. *utpada*(te) shows Panjabi influence (cf. P. *úpajna:*), while shortening of the long consonant in the Panjabi form is due to its being in an unaccented syllable.

dh+y:

OIA. budhya(te) > MIA. bujjha(i) > P. √bujjh, H. √bu:jh 'to guess.'

OIA. śudhya(ti) > MIA. sujja(i) > P. √sujjh, H. √su:jh 'to occur to mind'.

OIA. √yudh-ya > MIA. √jujja > H. √ju:jh 'to combat'.

OIA. sam-√budh-ya > MIA. √samujja > H. √samajh, P. √samjh, 'to understand'.

OIA. √rudh-ya > MIA. √rujja > P. √rujjh 'to be occupied', H. √ru:jh (dialectal). Standard H. √rū:dh 'to obstruct' comes from a form with nasal like *rundhati.

OIA. √rdh-ya > MIA. √rijja > P. √rijjh 'to be cooked'.

The cognate form ri:jha: in Hindi has a different sense.

NASAL+y :

177. ny, ny appear as nṇ, nn, ññ in MIA. Panjabi has usually alveolar nn for both ny and ny, but sometimes ñj is also found for ny. Hindi, on the other hand, has single alveolar n in all cases as a result of simplification.

Examples :

OIA. punya > MIA. puṇṇa (Mg. Pkt. puñña) > P. punn, H. pun 'merit'.

OIA. śunya > MIA. sunna > P. sunna:, also suñja:, H. suna: 'empty'.

OIA. kanya: > MIA. kañña > P. kañj 'girl' (also kañjaka: < kanyaka:, which may be a semi-tatsama.)

OIA. manyate > MIA. mannai > P. manne, H. mane 'he may believe.'

OIA. dha:nya > MIA. dhanna > P. dha:n, H. dha:n 'rice'.

OIA. janya: > MIA. jañña, janna, jañja > P. jann beside jañj 'wedding party.'

l+y :

178. In a group l+y, the latter is assimilated and the resultant ll is usually retained in Panjabi, while in Hindi it is simplified to single l, e.g. OIA. mu:lya > MIA. molla > H. mol; (P. Pkt. mulla >) P. mull 'price'; OIA. śalya > MIA. salla > P. sall 'dart', H. sa:l 'wound'.

OIA. *tulya* > MIA. *tulla* > P. *tull* 'equal'.

In some cases Panjabi, however, shows aspiration⁵³ of the resulting *ll* or the final single *l* after a long vowel, e.g. *kallh* [kàll] 'yesterday, tomorrow' for *kall* (< *kalya*), *ma:hl* [mà:l] 'belt of wheel' for *ma:l* (< *ma:lla* < *ma:lya*). *pahläg* [pàläg] 'bedstead' for *palläg* < *pallaṅga* < *palyaṅka* (Skt. *paryaṅka*); *gallh* [gàll] 'cheek' for *gall* (< *galla*, cf. *galya*).

v+y:

179. Initial *vy* appears as *b* (< *bb* < *vv*) in Hindi and *v* in Panjabi e.g. H. *ba:gh* (Skt. *vya:ghra*); *bakha:n* 'description, praise' (Skt. *vya:khyatna*); P. *vapair* 'trade' (Skt. *vya:para*). In H. *bitha*: 'woe', P. *vithēa*: 'woeful tale' (Skt. *vyatha*:) *y* seems to have been vocalised rather than assimilated.

y+y:

180. OIA *yy* becomes *jj* in MIA, which appears as single *j* in Hindi and Panjabi, in the latter, however, only when final, e.g. OIA-*śayya*: > MIA. *sejja*:, *sejja* > H. *se:j*, P. *se:j* 'bed' beside *sejja*:-

r+y:

181. The group *r+y* also becomes *jj* in MIA. Hindi simplifies *jj* to single *j*, while Panjabi preserves *jj* except when final after a long vowel, in which case it is reduced to a single *j*; e.g. OIA. *ka:rya* > MIA. *kajja* (P. Pkt. *kajja*) > H., P. *ka:j* 'work'; OIA. *pu:rya(ṭe)* > MIA. ✓ *pujja*- > P. ✓ *pujj* 'to reach'; OIA. *su:rya* > MIA. *sujja* > P. *sujj*⁵⁴ 'sun'.

Hindi, however, shows preference for *r*, e.g. ✓ *pu:r* 'to accomplish' (Skt. *purīyate*), not ✓ *pu:j*; *su:r* 'sun' (Skt. *su:rya*), not *su:j* (cf. P. *sujj*); *ka:r* 'work' (Skt. *ka:rya*) beside *ka:j*; *tu:r* 'trumpet' (Skt. *tu:rya*), etc.

SIBILANT+Y:

182. In a group sibilant+*y*, the *y* is assimilated and the resulting double sibilants, *śś*, *ṣṣ*, *ss*, all become *ss*. Initially, MIA shows *s* only. Panjabi preserves the medial MIA *ss* except that it is sometimes simplified to single *s* after the loss of final vowel. But in Hindi the *ss* is always simplified, medially and finally. Thus,

OIA. *śya:mala(ka)* > H. *sā:vlā*:, P. *sōla*: 'dark'.

OIA *śya:la(ka)* > H. *sa:la*:, P. *sa:la*: 'wife's brother'.

53. Actually the aspiration is lost in modifying the tone.

54. Found in *Darā Bhai Gurdas* VI, 20, 2, written as *sujjh*. The common form, however, is with anaptyxis: [su:rθj].

OIA. *dr̥śya*(te) > P. √dis (< diss) 'to appear', H. *dis* (obs.)

OIA. *naśya*(ti) > P. √nass 'to run away'.

OIA. *avaśya*:ya > H. *os* 'dew'.

OIA. *tuśya*(ti) > P. √tuss, H. √tus (obs.) 'to be pleased'.

OIA. *ruśya*(te) > P. √russ, H. *rus* (obs.) 'to feel annoyed'.

OIA. *hasya* > P. *ha:ssa*, H. *hā:si* 'laughter'.

OIA. *kāśya* > P. *kā:ssi*, H. *kā:sa* 'bronze'.

OIA. *alasya* > P. *alas*, H. *al:as* 'laziness'.

h+y:

183. The group *hy* first results into *yy* with aspiration and then becomes *jyh* in MIA. Panjabi preserves the resulting double consonant as *jj* with modification of tone for the loss of aspiration except when final after a long vowel, while in Hindi it is simplified to single *jh*. Thus we have OIA. *guhya* > MIA. *gujjha* > P. *gujjha*: 'concealed'. Hindi has *gujhiya*: 'a kind of sweet meet or dish', √*gujha*:na: 'to conceal', *gujhr̥ṣṭ*, *gujhṣṭ* 'ladies' part about navel', all connected with Skt. *guhya*.

OIA. *dahya*(te) > MIA. *dajjha* > P. √*dajjh*, H. √*da:jh* 'to burn' (obs.)

OIA. *ba:hya* > MIA. *ba:jjha* > P. *ba:jjh*, *ba:jjhō* 'without', H. *ba:jjh* (obs.)

OIA. *vahya* (Skt. *uhyā*) > MIA. *vojja* > P. *bojh*, H. *bojh* 'burden'.

CONSONANT+r:

184. As a rule, *r* is assimilated to the consonant it follows or precedes. But the group consonant+r has been treated differently from the group *r*+consonant in some MIA dialects, especially N. W. dialects, as is shown by the Ashokan inscriptions of Shahabazgarh and Mansehra. Panjabi has some traces of this treatment in its western dialects which preserve the groups consonant+r, especially dental stops+r, in most of the cases, e.g. *grā:* 'village' (Skt. *grāma*), *dartri*: 'sickle' (Skt. *dartra*), cf. E. P. *dartri*; *trōna*: 'to break' (Skt. *trōṇayati*), cf. E. P. *trōna*; *træ* 'three' (Skt. *trayaḥ*), cf. E. P. *tinn* (Skt. *triṇi*), etc. The tendency to shift the *r* in a group *r*+consonant, though rare, is also noticeable in western dialects, e.g. *trakkari*: 'balance', E. P. *takkari*, if the word be connected with the Sanskrit root √*tark*; cf. *dharma* > *dhramma* in Shahabazgarh inscription.

Excepting its western dialects Panjabi agrees with Hindī in assimilating the *r* to the preceding consonant. In the latter, however, the resulting long consonants are simplified to single ones as usual. E. Panjabi also shows simplification of long consonants but only when they occur initially.⁵⁵

Examples :

kr:

OIA. krośa > H. kos, P. koh 'league'

OIA. cakra < MIA. cakka > P. cakk, H. caik 'potter's wheel'.

gr:

OIA. granthi > MIA. ganthi > P. gaṇḍh, H. gā:ṭh 'knot'.

OIA. grama > MIA. ga:va > H. gā:w, W.P. grā: 'village'.

(In Eastern Panjabi, the expected cognate form gā: or gā:ū has become extinct.)

OIA. agre > MIA. agge > P. agge, H. a:ge 'in front'.

ghr:

OIA. ghṛṇa: > MIA. ghina > P. ghin, H. ghin 'detestation'.

OIA. vya:ghra > MIA. vaggha > H. ba:gh 'tiger'.

P. ba:gh may be a loan from Hindī.

tr:

OIA. trotayati > H. √torna:; P. √torṇa: 'to break'; but troṇa: in western dialects.

In H. √tutṭ, P. √tutt 'to break' (Skt. trutyati) beside W.P. √trutt, cerebralisation is perhaps due to the following tt < ty.

OIA. triṇi > MIA. tinni > H. ti:n, P. tinn 'three'. W.P. træ (Skt. trayah).

OIA. putra > MIA. putta > H. pu:t, P. putt 'son' beside puttar in western dialects.

OIA. caitra > MIA. cēṭṭa > H. cet, P. cet 'name of a month' beside cettar in western dialects.

OIA. patra > H. pa:t, P. patt, 'leaf' beside pattar.

55. Actually the simplification of the initial long or double consonants resulting through assimilation occurred in MIA period. While the parent Prakrits of Hindī and E. Panjabi had simplified them to single consonants, the western Prakrits preserved them in many cases, especially in the groups dental stop + r.

OIA. sutra > MIA. sutta (P. Pkt. sutta) > H. sut, P. sut beside *suttar* 'thread'.

OIA. pautra > MIA. potta > H. pota; P. potta; beside *potra*.
 ttar in *puttar*, *cettar*, *pattar*, *suttar*, etc. of the western dialects is, however, a peculiar treatment different from what is called the preservation of the group dental stop +r. The r in these cases has been preserved but the dental stop has also been doubled with the insertion of a vocalic element,

dr:

OIA. draṅkṣa; > MIA. daṅkkha > H. daṅkh, P. daṅkh 'grape'.

OIA. bhaḍrapada > MIA. bhaddavaa > H. bhaḍḍō, P. bhaḍḍō
 'name of a month' beside *bhaḍrō*.

OIA. nidra; > MIA. nidda > H. nīd, P. nīd beside *niṇdar* 'sleep'.

OIA. dadru > MIA. daddu > H. daḍ, P. dadd, daddri; beside
daddar 'ring worm'.

OIA. chidra > MIA. chidda > H. ched 'hole', P. chidda; 'porous'
 (adj.) beside *chiddar* 'defect' (noun).

dhr:

OIA. gr̥dhra > MIA. giddha > H. giḍh, P. giddh 'vulture'.

bhr:

In MIA the r in the initial *bhr* was assimilated and the resulting double consonant was simplified to single *bh*. Hence Hindi and Panjabi both have a single *bh*. Panjabi, however, sometimes retains the group.

OIA. bramara > MIA. bbāvara > H. bhāvar, bhōra; P. bhōr, bhōra; 'black bee'.

OIA. bhratr̥ (ka) > MIA. bhaia > H. bhai; P. bhai; beside *bhra*:
 'brother' (cf. Lah. bhira;).

OIA. bhraṣṭra > MIA. bhaṭṭha, bhaṭṭa > H. bhaṭ, P. bhaṭṭh
 'furnace'.

mr:

In MIA, initial *mr* changed to *mm* and was then simplified to single *m*. Hindi and Panjabi both show a single [m]; e. g. OIA. mrakṣaṇa > MIA. makkhaṇa > H. maḱhan, P. makkhan 'butter'.

But a medial *mr* behaved differently. It introduced *b* between *m* and *r*, and the whole group, then, became *mb* in Prakrits. While

Panjabi preserves this MIA group mb, Hindi shows sometimes a single m and at other times $\bar{b} < mb$, i. e. the nasal consonant reduced to the nasality of the preceding vowel. Thus

OIA. a:mra > MIA. amba > P. amb, H. a:m 'mango'.

OIA. ta:mra > P. Pkt. ta:mba > P. ta:mba:; H. Pkt. tamba > H. tã:ba: 'copper'.

śr:

In the group śr, the r was assimilated in MIA. There being no ś in the parent Prakrits of Hindi and Panjabi, the assimilation resulted into ss which was simplified to single s in initial position. Panjabi follows Middle Indo-Aryan, while Hindi simplifies the medial ss also to single s. Thus H. sarvan, P. sŋ 'name of a month' (Skt. śra:vana), H. sa:s, P. sass 'mother-in-law' (Skt. śvaśru; Pkt. sassu), etc.

r + CONSONANT :

185. In groups r + consonants, the r was assimilated to the next. While Panjabi preserves the resulting long consonants, Hindi simplifies them to single ones. In groups r + dental stops, however, the r sometimes causes cerebralisation of the dental stop. This was common in eastern Prakrits. In Hindi and Panjabi, it is generally met with in doublets, one with the dental and the other with the cerebral, to keep distinction of meaning (for examples see under *Cerebralisation*).

Examples :

rk:

OIA. śarkara: > MIA. sakkara > P. śakkar, H. śa:kar 'sugar' beside śakkar (a loan from Panjabi).

OIA. arka > MIA. akka > P. akk, H. a:k 'name of a plant'.

OIA. markata > MIA. makkada > P. makkar, H. makri: 'spider' (due to Panjabi influence; cf. M. ma:kaḍ).

OIA. karkara > MIA. kakkara > P. kakkar 'frost'.

rg:

OIA. gargara > MIA. gaggara > H. ga:gar, P. ga:ggar 'water-vessel' (a loan from Hindi).

OIA. caturguṇa > MIA. caugguṇa > H. cŋguṇa; P. cŋggana: 'four times'.

OIA. varga > MIA. vagga > P. vagg 'herd'.

rc:

OIA. ku:rcika: > MIA. kuccia: > H. ku:ci:, P. ku:cci: 'brush' (may be a loan from Hindi).

rj:

OIA. kharju:ra > MIA khajju:ra > H., P. khaju:r⁵⁶ 'date'.

OIA. garjara > MIA gajjara > H. ga:jar, P. ga:jjar 'carrot' (a loan from Hindi).

OIA. gurjara > MIA, gujjara > H. gu:jar, P. gu:jjar 'Gujjar'.

rn:

OIA. urna: > MIA. unna > H. u:n, P. unn 'wool'.

OIA. pu:rṇima: > MIA. puṇṇima > puṇṇiṽa > punniṽ > H. pu:nṇ, P. punnēā: 'full-moon night'.

OIA. karṇa > MIA. kaṇṇa > H. ka:n, P. kann 'ear'.

rt:

OIA. va:rtta: > MIA vatta:, vatta > H. ba:t, P. ba:t 'matter'.

OIA. vartika: > MIA vattia: > H. ba:ti:, P. ba:ti: 'wick'.

OIA. ka:rtika > MIA kattika > H. ka:ti:k, P. kattak 'name of a month'.

P. √vatt 'to change' (Skt. vartati), H. ba:t, P. vatta: 'weigh-stone' (Skt. varti) are due to cerebralisation of t. (See under *Cerebralisation*).

rth:

OIA. caturtha > MIA. cauttha > H. cōtha:, P. cōttha: 'fourth'.

OIA. sa:rthika > MIA. satthia > H. sa:thi:, P. satthi: 'companion' (should be a loan from Hindi).

rd:

OIA. ku:rda(ti) > MIA. kudda- > H. √ku:d, P. √kudd 'to jump'.

OIA. va:rdala > MIA. vaddala, baddala > H. ba:dal, P. baddal 'cloud'.

H. kōṛi:, P. kōḍḍi: 'cowrie shell' (<kauḍḍia < kavaddia) < OIA. kapardika: are due to cerebralisation.

56. Shortening of long consonant in Panjabi is due to the loss of accent in the preceding vowel. The vowel before j in Hindi has not been lengthened for the same reason.

rdh:

OIA. *ardha* > MIA. *addha* > H. *a:dh*, P. *addh* 'half'.

But in H. *sa:ṛhe*, P. *sa:ḍḍhe* 'with half', the *r* causes cerebralisation which goes back to MIA. *saḍḍha* < OIA. *sa:rdha*.

OIA. *vardha(te)* > *vaddha* - > *vadha* - > P. *√vadh* 'to increase', but H. *√barh* 'ibid'.

H. *badhati*: 'congratulation' may be a loan from Panjabi (cf. P. *vadhati*). For cerebral in P. *√vaddh* 'to cut' (Skt. *vardhati*) see under *Cerebralisation*.

rp:

OIA. *sarpa* > MIA. *sappa* > H. *sā:p*, P. *sapp* 'serpent'.

OIA. *karpara* > MIA. *khappara* > H., P. *khappar* 'scull, bowl'.

H. *khappar* must be a loan from Panjabi, cf. M. *kha:par*.

H. *kapra*: 'cloth' < MIA. *kappada* < OIA. *karpata* is also a borrowed Panjabi form with short *a*, cf. P. *kappra*, M. *ka:pad*.

Short *a* in H. *kapa:s* 'cotton' < *kappa:s* (Skt. *karpasā*) is due to its being unaccented as in other languages, cf. Guj. *kapa:s*, M. *kapu:s*. In P. *kapa:h* [*kāpā:*] the double consonant after short *a* has been shortened for the same reason.

rbh:

OIA. *garbhini*: > MIA. *gabbhini* > H. *ga:bhini*, P. *gabbhan* 'pregnant'.

OIA. *darbha* > MIA. *dabbha* > H. *da:bh*, P. *dabbh* 'grass'.

rm:

OIA. *carma* > MIA. *camma* > H. *ca:m*, P. *camm* 'leather'.

OIA. *karma(n)* > MIA. *kamma* > H. *ka:m*, P. *kamm* 'work'.

rl:

OIA. *durlabha* > MIA. *dullaha* > H. *du:lah* beside *dulha*: 'bridegroom', P. *du:lla*: 'generous'.

rv:

OIA. *durva*: > MIA. (*duvva*), *dubba* > H. *du:b* 'grass'.

OIA. *carva(ti)* > MIA. *cavva(i)*, *cabba(i)* > H. *√ca:b*, P. *√cabb* 'to chew, crunch'

OIA. *sarva* > MIA. (*savva*) *sabba* > H. *sab*, P. *sabbh*, *sabh* 'all' (Short *a* in H. *sab* is due to Panjabi influence).

rś:

OIA. parśva > MIA. passa > H. pas 'near'; P. Pkt. pa:ssa > P. pa:ssa: 'side'.

OIA. parśu > MIA. passu > H. pasli; P. passali; pasli: 'rib'

(Short a in H. pasli: is due to Panjabi influence; cf. M. pasoli; obsolete pasuri: used in old Hindi poetry. P. pasli: beside the regular passali:, on the other hand, appears to be a loan from Hindi.)

rṣ:

rṣ changed to ss in Panjabi Prakrit, but in the parent Prakrit of Hindi a short [i] was inserted between r and s, which later became [a] in Hindi. Thus P. √vass 'to rain' (Skt. varṣati, P. Pkt. vassai) but H. √baras (H. Pkt. barisai); similarly H. baras 'year' (< Pkt. barisa), cf. AMg. varisa (Skt. varṣa). P. varha: 'year' comes from a form borrowed in MIA stage. The inserted vowel dropped off in Panjabi. Thus Pkt. varisa > variha > P. varha: [vāra:].

l+CONSONANT:

186. (a) In groups l+stop, the l was assimilated in MIA. The long consonant thus produced is shortened in Hindi, while it remains unchanged in Panjabi.

Examples:

lk:

OIA. valkala > MIA. vakkal > H. ba:kal; P. bakk 'skin' (Skt. valka:).

OIA. śalka > MIA. sakka > P. sakk 'bark'.

lg:

OIA. valga: > MIA. vagga > H. ba:g, P. va:g 'rein'.

OIA. phalguna > MIA. phagguṇa > H. pha:gun, P. phaggaṇ 'name of a month'.

(b) l+y: See under consonant+y.

(c) In groups l+v, d+l and r+l, the l assimilated the other member in MIA. The [ll] thus produced was simplified to single l in Hindi, while it remained unchanged in Panjabi.

Examples:

lv:

OIA. vilva > MIA. vēlla-bēlla > H. bel; (P. Pkt. billa > P. bill 'name of a fruit'.

dl:

*kṣudla (Skt. kṣudra) > MIA. khulla > H. khula:, P. khulla:, also khullha: 'open'.

Short u in H. khula: is evidently due to Panjabi influence.

*bhadla (Skt. bhadra) > MIA. bhalla > H. bhalā:, P. bhalla: 'good'.

The short a in Hindi form has been retained perhaps to distinguish the meaning, cf. H. bhalā: 'spear' < OIA. bhalla. Similarly the single l in Panjabi form distinguishes it from bhalla: 'fried ball made of bruised dal'.

rl:

See under r+ consonant.

CONSONANT+v:

187. (a) In MIA the usual treatment of groups stop+v was to assimilate the v to the stop it followed. The resulting long or double consonants have been simplified to single ones in Hindi, while they have remained unchanged in Panjabi except those which, occurring initially, had already been shortened in MIA in that position.

Examples:

kv:

OIA. pakva > MIA. pakka > H. paka: 'ripened, cooked' beside pakka:, P. pakka: 'firm'. While Hindi pakka: with short a and kk must be a loan from Panjabi, paka: with short a is a subsequent development of the same.

OIA. kvaṭṭha > MIA. kaṭṭha > H. kaṭṭha: P. kaṭṭha: 'boiled syrup of medicinal plants'.

OIA. kvathita: > MIA. kaṭṭha: > H. kaṭṭhi:, P. kaṭṭhi: 'curry'.

jv:

OIA. ujḡvala > MIA. ujḡjala > H. ujla:, P. ujḡjal beside ujḡjala: 'bright'.

(Short u in H. ujla: is due to Panjabi influence.)

OIA. jvala(ti) > MIA. jala(i) > H. √jal(na:), P. √jal(na:) 'to burn' beside √bal(na:) which is more common.

tv:

OIA. tattva > MIA. tatta > P. tatt 'element'; old H. tatt must be a loan from Panjabi.

OIA. *sattva* > MIA. *satta* > H. *satt*, *sat* ; P. *sat* 'essence'.

The Hindi forms are probably loans from Panjabi to distinguish them from *satt* 'seven'. P. *sat* with single *t*, on the other hand, may have developed to distinguish it from *satt* 'seven'.

dv:

OIA. *dvau* > *ddo* > *do* > H., P. *do* 'two'.

It can also be explained as coming from *duvau* (cf. *duvi* 'two' for Skt. *dvau* or *dve* in Ashokan Shahabazgarhi inscription and *duvaḍas* 'twelve' for *dva:daśa* in Mansera inscription).

H. *du:ja*; P. *du:ja*: 'second' (Skt. *dvitiya*); H., *dugna*; P. *duma*: 'twice' (Skt. *dviguna*;) should be explained as coming from MIA forms with *du* or *duv* rather than from forms with *d* < *dd* < *dv*.

(b) In OIA groups dental stop+v, Middle Indo-Aryan, however, shows assimilation of the stop to *v*, thus

(i) In the group *d*+*v*, *d* was assimilated to *v*. The resultant *vv* appears as single *v* initially in such MIA words as *va:raha*, *vatti:sa*, *va:ya:li:sam*, *va:vanam*, etc. (for OIA *dva:daśa*, *dva:triṃśat*, *dva:catva:riṃśat*, *dva:pañca:śat*, etc.). But in some Prakrits, the *v* must have become a voiced labial stop due to the influence of the voiced *d*⁵⁷ and thus the group resulted into [bb]. It was so at least in the parent Prakrit of Hindi and the alternative forms with *b* of the above MIA words might have been carried into other Prakrits and might have prevailed upon those forms. Hence the cognate words descending from these are with *b* in most of the NIA languages (For examples see 136). In medial groups; Panjabi, however, retains *v*, e.g. *vaṭna*: 'unguent' < OIA. *udvartana*; cf. H. *ubṭan*, E.P. (Doa., Mal.) *baṭna*.

(ii) In the group *t*+*v*, the dental stop was assimilated to *v* which must be assumed to have become unvoiced labial stop *p* due to the influence of the unvoiced *t* before the latter was assimilated. The resultant *pp* < *tp* < *tv* in MIA has its traces in affixes *pa*; *ppa*: < OIA. *tva*, and *pan*, *ppan* < *tvana* in Hindi and Panjabi. Thus H. *buṛha:pa*; P. *budheppa*: 'old age' < MIA. *budhappa* < OIA. *vrddhatva*; P. *suhappan* 'beauty' < MIA. *suhappana* < OIA. **śubhatvana*.

57. *dba:daśa* in Ashokan South-western Prakrit testifies to it.

(iii) The group $dh+v$ had three developments in MIA. Medially, the stop being assimilated to v (representing b) the group became bbh , while, initially, it became jjh or ddh . All the three have their traces in Hindi and Panjabi.

Examples :

OIA. $u:rdhva > ubbha > H. u:bbha; P. ubbha:$

OIA. $dhvaja-dāṇḍa > jjha-aṇḍa > H. jhāṇḍa; P. jhāṇḍa$ 'flag'

OIA. $*dhvaṣṭa$ (Skt. $dhvasta$) $> ddhatṭha > dhatṭha > P. dhatṭha$ 'decayed'.

Hindi root $ḍha:$ or $ḍaḥa:$ comes from Skt. \sqrt{dhvas} .

(c) In groups $r+v$ and $l+v$, r and v were assimilated respectively. For rv see 185 and for lv 186 (c).

(d) In a group sibilant+ v , the v was assimilated and the whole group resulted into ss in MIA. Initially, the ss was shortened to s , but medially it was kept up. Hindi simplifies the medial ss also. In Panjabi the medial ss is shortened only when falling in an unaccented syllable.

Examples :

$\acute{s}v:$

OIA. $\acute{s}vaśura > MIA. sasura > H. sasur, P. sḍhura:$

'father-in law'.

OIA. $\acute{s}vaśru: > MIA. sassu > H. sa:s, P. sass$ 'mother-in-law'.

OIA. $paṭṛéva > MIA. passa > H. pa:s$ 'near'; P. Pkt. $pa:ssa > P. pa:ssa$ 'side'.

In P. $vasa:h$ 'trust' (MIA. $vissasa < OIA. viśvasa$), the ss was shortened because the preceding vowel had become unaccented.

In old H. $bisa:s$, the vowel i has not been lengthened for the same reason.

$\acute{s}v:$

OIA. $ma:trṣvasṛka: > MIA. ma:ussia: > H. mḍsi:, P. massi:$

'mother's sister'

$sv:$

OIA. $sva:mi: > MIA. sa:mi: > sa:vī: > H. saṭi:, P. saṭi:$

'master, saint'.

OIA. $prasvinna > MIA. passinna > H. pa:ṣina$ 'perspiration'.
P. $pa:ṣinna$ is a loan from Hindi; cf. P. $sinna$ (Skt. $svinna$).

OIA. prasvidyate > MIA. passijjai > H. √pasij, P. √pasijj 'to sweat'.

In H. √pasij the vowel *a* before *s* has not been lengthened due to its being unaccented. In P. √pasijj, on the other hand, the *ss* after the short vowel has not been preserved on account of the latter being unaccented.

(e) *hv*: The group *hv* became *bbh* in MIA. Hindi simplifies *bbh* to *bh*, while in Panjabi it becomes *bb*, the aspiration being lost in raising the pitch of the preceding accented vowel, e.g. OIA. jibva: > MIA. jibbha > H. ji:bh. Panjabi should have the form jibbh < jibbh, but it has been superimposed by the Hindi form ji:bh with long *i* and single *b*.

STOP+SIBILANT :

188. *kṣ*: OIA. *kṣ* appears as *kh* in Hindi, while in Panjabi it appears as *kh* in the initial position and *kkh* in the interior of the word. The latter, thus, agrees with Middle Indo-Aryan, and is conservative in preserving the group *kkh*.

Examples :

OIA. kuksi > MIA. kukkhi > P. kukkb, H. kokh 'womb'.

OIA. lakṣa > MIA. lakkha > P. lakkh, H. la:kh 'lac'.

OIA. vakṣa > MIA. vakkha > P. vakkhi: 'side'.

OIA. pakṣa > MIA. pakkha, paṃkha > P. pakkh 'side', H. pākḥ beside paṃkh 'feather'.

OIA. akṣi > MIA. akkhi > P. akkh, H. ā:kh 'eye'.

OIA. mraṣaṇa > MIA. makkhaṇa > P. makkhaṇ, H. ma:khan 'butter' beside makkhan (a loan from Panjabi).

OIA. makṣika: > MIA. makkhia: > P. makkhi:, H. ma:khi: 'fly' beside makkhi: (a loan from Panjabi).

OIA. kṣa:ra > MIA. kha:ra > P. kha:r, H. kha:r 'alkali'.

OIA. kṣurapa > MIA. khurapa > P. khurpa:, H. khurpa: 'scraper'.

OIA. kṣetra > MIA. khēṭṭa > P. khet, H. khet 'field'.

OIA. śikṣa: > MIA. sikkha > P. sikkh, H. si:kh 'advice'.

In a few Hindi and Panjabi words *kṣ* appears as *ch* and *cch*. These words should be regarded as loans from a *ch*-dialect in MIA stage. In some cases Hindi and Panjabi agree in having forms with *ch* only (e.g. H. chura:, P. chura: 'knife' < MIA. chura < OIA.

ksura; H. ricch, P. ricch 'bear' < MIA. riccha < OIA. rkṣa), but in the other, the form with ch is found in one language and with kh in the other or both the forms are found side by side, e.g. OIA. kakṣa > H. kā:kh, P. kacch 'arm-pit'; OIA. pakṣi (n) > P. pañchi; but H. pā:khī: beside pañchi: 'bird'; OIA. kṣa:r > P. kha:r 'alkali', but H. cha:r 'dust' beside kha:r; OIA. bhikṣa: > H. bhi:kh beside bhiccha: (dialectal); P. bhikkh beside bhicchā:; OIA. śikṣa: > H. sikh beside siccha: (dialectal), but P. sikkh only.

189. *ts*: OIA *ts* appears as *cch* in Panjabi and *ch* in Hindi, e.g. OIA. vatsa > MIA. vaccha > P. vaccha:, H. bachṛa: 'calf'; OIA. matsyika: > MIA. macchia: > P. macchi:, H. machli: 'fish'.

The vowel before *ch* in Hindi form is not long perhaps due to Panjabi influence.

SIBILANT + CONSONANT :

190. In MIA the group sibilant + stop developed into a double stop with aspiration. Panjabi preserves this MIA character, but in Hindi the double stop is simplified to a single aspirated stop. Thus :

OIA. śc > MIA. cch:

OIA. paśca > MIA. paccha > P. piccha:, H. piṭha: 'hind part'.

OIA. vṛścika > MIA. (Pali) vicchiko, (Pkt.) vicchia, vicchua > P. bicchu: 'scorpion', H. *ibid* which must be a loan from Panjabi.

OIA. śk > MIA. kkh:

OIA. pauskara (Skt. puṣkara) > MIA. pokkhara > P. pokkhar, H. pokhar 'pool'.

OIA. viṣkirati > MIA. vikkhirai, vikkharai > P. √bikkharnai, H. √bikharnai: 'to be scattered.'

OIA. śuska > MIA. sukkha > H. su:kha: 'dry', but P. sukka: due to loss of aspiration.

OIA. ṣṭ > MIA. tṭh:

OIA. miṣṭa > MIA. miṭṭha > P. miṭṭha:, H. miṭha: 'sweet'.

OIA. dhrṣṭa > MIA. dhiṭṭh > H. dhiṭṭh: 'obstinate', P. dhiṭṭh is a loan from Hindi with *dh* changed to *ṭ* with usual tone-effect.

OIA. ariṣṭa > MIA. riṭṭha > H. riṭha: 'soap-nut'; P. riṭṭha: must be a loan from Hindi.

OIA. *musti* > MIA. *mutṭhi* > P. *mutṭh*, H. *muṭṭh* 'fist'; H. *mutṭhi*: should be a loan from Panjabi.

OIA. *aṣṭa* > MIA. *aṭṭha* > P. *aṭṭh*, H. *aṭṭh* 'eight'.

OIA. *śṭh* > MIA. *tṭh*:

OIA. *kaṣṭha* > MIA. *kaṭṭha* > H. *kaṭṭh*; P. Pkt. *kaṭṭha* > P. *kaṭṭh* 'wood'.

OIA. *jyeṣṭha* > MIA. *jetṭha* > H., P. *jeth* 'husband's elder brother, the name of a month'. The long or double consonant has been shortened in Panjabi due to its being final.

OIA. *aṅguṣṭha* > MIA. *aṅguṭṭha* > H. *āguṭṭha*; P. *āguṭṭha*: 'thumb'. (The long *u*: in P. *āguṭṭha*: is due to Hindi influence.)

OIA. *koṣṭha* > MIA. *koṭṭha* > H. *koṭṭha*; P. *koṭṭha*: 'room'.

OIA. *sp* > MIA. *pph*:

OIA. *vaṣpa* > MIA. *bappa* > *bappa* > H. *bha:p*; P. Pkt. *bha:ppha* > P. *bha:f* 'steam'.

OIA. *sk* > MIA. *kkh*: (initially *kh*):

OIA. *skambha* > MIA. *khambha* > H. *khambha*; P. *khambha*: 'post'.

OIA. *upaskara* > *uvakkhara* > *vakkhara* > P. *bakkhar* 'oil seeds'.

OIA. *st* > MIA. *tth* (initially *th*):

OIA. *hasta* > MIA. *batṭha* > P. *batṭh*, H. *haṭṭh* 'hand'.

OIA. *mastaka* > MIA. *matṭhaa* > P. *matṭha*; H. *maṭṭha*: 'forehead'.

OIA. *pustika*: > MIA. *pōṭṭhi*: > P. *potṭhi*; H. *poṭhi*: 'book'.

OIA. *stambha* > MIA. *thambha* > P. *thammbh*, *thambha*; H. *thambha*: 'column'.

Skt. *stana* > MIA. *thaṇa* > P. *thaṇ*, H. *than* 'teat'.

While H. *patthar* 'stone' (Skt. *prastar*) with short *a* should be a loan from Panjabi (cf. E.H. *paṭṭhar*, M. *paṭṭhar*), H. *nath* 'nose-ring' (Skt. *nasta*:) with short *a* shows Panjabi influence.

OIA. *sth* > MIA. *tth* (initially *th*)

OIA. *sthama* > MIA. *thaṇa* > H. *tha:n* (dialectal), P. *thā*: 'place'.

OIA. *sthaṇi*: > MIA. *thaṇi*: > H. *thaṇi*; P. *thaṇi*: 'big plate'.

OIA. *sthūna*: > MIA. *thuṇa* > H. *thuṇi*: 'pillar'.

OIA. sp > MIA. pph (initially ph)

OIA. spa:śa > MIA. pha:sa > H. phā:s, P. pha:ha:, pha:ha:
'snare'.

OIA. sph > MIA. pph (initially ph)

OIA. sphotaka > MIA. phodaa > H. phora:, P. phora: 'sore'.

OIA. sphurati > MIA. phurai > H. √ phur(na:), P. √ phur(na:)
'to flash in mind'.

(2) In groups with sibilant being the final of the prefix, the stops were doubled but without aspiration. The resulting double stops appear as single ones in both Hindi and Panjabi except when falling in an accented syllable. Thus

OIA. niścala > niccala > H. nicāl, P. nicālla: 'motionless'.

OIA. niścotate > niccoṭai > niccoḍai > H. √ nicōṛna:, P. √
nacōṛna: 'to squeeze'.

OIA. niskarma > nikkamma > H., P. nikāmma: 'useless'.

But P. √ nīttarna: 'to become free from impurity' (Skt. nistarati).
H. √ nītharna: 'ibid', however, shows aspiration of the resultant double
stop in the parent Prakrit of Hindi.

(3) (a) The group sn in Skt. snati becomes nh and then n with a low rising tone in Panjabi. The course of this development may be like this: sn > hn > nh > n with a tone. But in Hindi a short ə is inserted between the group nh. Thus P. √ n̄ha: [n'a:],
H. √ naha: 'to bathe'.

(b) The non-initial śm and sm become ss in MIA. Panjabi preserves the ss, whereas Hindi simplifies it to single s, e.g. OIA. raśmi > MIA. rassi > P. rassi: 'string', H. ras 'rein' beside rassi: (the latter is a loan from Panjabi); OIA. vismarati > MIA. vissarai > P. √ vissar(na:), H. √ bisar(na:) 'to forget'.

Initial śm appears as m in both Hindi and Panjabi, e.g. OIA. śmaśru > MIA. massu > H. mas beside mū:ch 'moustache', P. mass beside mucch. The Hindi form with short a is due to Panjabi influence.

(4) For the treatment of sibilant+y, r, v see 182, 184 and 187(d) respectively and for r+sibilant see 185.

Denasalisation

191. An intervocalic-m- was split up into \bar{v} in Late MIA which later resulted into \bar{v} . Hindi has this resulting \bar{v} both in final and non-final syllables except that a final v is generally pronounced as

a semi-vowel. Panjabi, on the other hand, turns \tilde{v} to \tilde{u} in the final syllables, and to u in the non-final syllables. In the first case, the resultant forms a diphthong with the preceding vowel if it is short, but is contracted to it if it is long. In the second case the resultant always forms a diphthong with the preceding vowel whether it is short or long. The diphthong in both cases, however, develops further into a simple long vowel. Thus the nasality resulting from MIA. $\tilde{v} < \text{OIA } -m-$ remains in Hindi, while in Panjabi it disappears from non-final syllables, e.g. OIA. *kamala* > Apbh. *kaṽala* > H. *kāval*, but P. *kṓl* 'lotus'; OIA. *śyamaḥmalaka* > Apbh. *saṽalaa* > H. *sāṽla*; but P. *sṓla* 'dark'; OIA. *aḥmalaka* > Apbh. *aṽalaa* > H. *āṽla*; but P. *ṓla* 'myrobalan'; OIA. *camara* > Apbh. *caṽara* > H. *cāvar*, but P. *cṓr* 'fly-whisk'; OIA. *bhramara* > Apbh. *bhaṽara* > H. *bhāvar* beside *bhṓra* (< *bhāura*), but P. *bhṓra*, *bhṓr* 'black bee'.

192. In final syllables, nasality remains on the final vowel in Panjabi, while Hindi has it always on the vowel before v or w , thus H. *gā:w*, P. *grā* 'village' (Skt. *grāma*); H. *nā:w* (dialectal), P. *nā* 'name' (Skt. *naṁma*); P. *bhṓ* 'giddiness' (Skt. *bhrama*); P. *gṓ* 'need,' H. *gāv* beside *gṓ* (Skt. *gama*); the latter should be a loan from Panjabi.

193. Denasalisation in H. *bis*, P. *viṁ* 'twenty' (Skt. *vimśati*) H. *tis*, P. *tiṁ* 'thirty' (Skt. *triṁśat*), etc. goes back to MIA. *visai*, *tisaa*. Similarly H. *bhitār* 'inside' (Skt. *abhi-antara*), H. $\sqrt{\text{bhig}}$, P. $\sqrt{\text{bhijj}}$ 'to be drenched' (Skt. *abhi-añj*) come from the denasalised MIA forms.

194. Hindi and Panjabi present participles of the roots ending in vowel present a remarkable contrast in denasalisation. In Hindi the nasal in the participle *nta* disappears, while it remains in Panjabi, e.g. H. *ja:ta:*, P. *ja:ṇda:* (< Panj. Pkt. **ja:ṇda*) < **ya:nta* 'going'; H. *kha:ta:*, P. *kha:ṇda:* (< Panj. Pkt. **kha:yaṇda*) < **kha:danta* 'eating'; H. *sota:*, P. *sṓṇda:* (< Panj. Pkt. **savaṇda*) < **svapanta* 'sleeping' etc.

In the Hindi words the nasal consonant was reduced to the nasality of the preceding vowel, which then disappeared because of its being in the unaccented vowel which itself later dropped off (*kha:danta* > *kha:anta* > *kha:vaṇta* > *kha:vāta* > *kha:vṓta* > *kha:vta:* > *kha:ta:* etc.), cf. Braj. *kha:t*, E. H. *kha:vṓt*. But in P. *kha:ṇda:*, *sṓṇda:* etc. the nasal consonant remained as it was not reduced to the nasality of the vowel.

In participles of the roots with consonant-ending like *kar* 'to do', *jal* 'to burn' etc., however, Hindi and Panjabi both suffer the loss of the nasalised vowel; thus H. *kārta*: (< *kārāta*: < Pkt. **karām̐ta*); P. *kārda*: (< *kārāda*: < Panj. Pkt. **karām̐da*) etc. The loss of nasality is due to the shift of accent which caused reduction of the nasal consonant to the nasality of the preceding vowel and its subsequent elision.

195. In a group nasal+consonant the nasality falling in an unaccented syllable disappears in both Hindi and Panjabi except that the latter retains it in a few cases, e.g. H. *pacpan*, P. *pacvañja*: 'fifty five' (< Skt. *pañcaśat*); H. *pacāsī*, P. *pacāssi*: 'eighty five' (< Skt. *pañcaśīti*); H. *pacānbe*, P. *pacānme* 'ninety five' (< Skt. *pañcanavati*); H. *pacās*, but P. *pājāḥ* 'fifty' (< Skt. *pañcaśat*); H. *paiki*, but P. *pāhlāg* (Skt. *paryāṅka*).

The loss of nasal in H. *pacci*: 'twenty five' (Skt. *pañcaviṃśati*), which appears to be due to assimilation, and the retention of *cc* with short *a* are difficult to explain; c.f. P. *pañjhī*; E.P. *pacci*: comes from H. *pacci*:s.

Aspiration

196. OIA initial unaspirated stops sometimes appear with aspiration in both Hindi and Panjabi. In the latter, however, the voiced stops lose their voice and aspiration both after they become aspirated. While in most of the cases aspiration in Hindi and Panjabi goes back to Middle Indo-Aryan where it developed due to an aspirate or a sibilant in the neighbouring syllable, it has developed independently also, though instances of such development are rare in Hindi.

Examples :

k > *kh*:

OIA. *kanduka* > P. *khuddo*, *khiddu*; , *khennu*: 'ball'.

OIA. *ku:pa* > P. *ku:ḥ*, but H. *ku:ā*:, 'well'.

OIA. *kautya* > P. *khoṭ* 'base metal' beside *kuṛ* 'falsehood' (< *ku:t*), H. *khoṭ*.

OIA. *kuñja* > P. *ku:ñja*, but H. *kona*: (< Skt. *koṇa*) 'corner'. (Bang. *kuṇa*: (< OIA. **kuṇya*:).

OIA. *karkaṭi*: > P. *khakkhaṭi*:, but H. *kakṛi*: 'cucumber'.

Aspiration in P. *khunḍha*: 'blunt' (Skt. *kuṇṭha*) is due to the aspirate *dh* < OIA. *ṭh*, which later loses its *h* in raising the pitch of the accented *u*.

In P. *khutthi*: 'bad woman' < OIA. *kustri*: and P. *khatt* 'to earn' < OIA. *kṛṣṭa*, aspiration is due to the sibilant in the neighbouring syllable. H. *√khaṭ* should be a loan from Panjabi. Similarly H. *khambha*: where *kh* goes back to MIA. *khambha* (< OIA. *skambha*), cf. P. *khambha*.

It would appear that whereas the aspiration of the *k* is frequent in Panjabi, it is rare in Hindi, and the sporadic words where aspiration is found are mostly loans from Panjabi.

g > *gb*:

P. *ghunḍ* [k'und], H. *ghūḥghaṭ* 'veil' (Skt. *guṇṭhana*).

P. *ghar* [k'ar], H. *ghar* 'house' (Skt. *gṛha*).

Aspiration in the interior of P. *kaṅgha*: [k^'nga:] 'comb' appearing as tone goes back to MIA. *kaṃkhao* (< Skt. *kaṅkaṭa*) while H. *kaṅgha*: should be a loan from Panjabi, cf. H. *pā:kh*.

c > *ch*:

H. *chalni*; P. *cha:naṇi*; *chamana*: 'seive' (Skt. *caḥlani*; *caḥlana*).

j > *jh*:

H. *jhuṭ* 'lie' (Skt. *juṣṭa*); P. *jhu:ṭh* [c'u:ṭh] is a loan from Hindi.

t > *th*:

t becomes *th* only when preceded by *s*; hence initial *t* never appears as *th* in Hindi and Panjabi. In all cases where *th* appears for OIA. *st*, aspiration goes back to MIA., e. g. H. *than*, P. *than* 'teat' < MIA. *thana* (< Skt. *stana*); H. *thambha*; P. *thamḥa*; *thamḥ* 'column' < MIA. *thambha* (Skt. *stambha*) etc.

d > *dh*:

P. *ḍhi*: [t'i:], H. *dhi:ya(a)* (dialectal) 'daughter' (Skt. *duhita*). Aspiration goes back to MIA. *dhi:ta*.

H. *ḍhoṭa*: 'son', *ḍhoṭi*: 'daughter' perhaps come from OIA. *dauhitra* 'daughter's son' with cerebralisation of the dental stop.

In H. *ḍhola*; P. *ḍholla*: 'beloved' (Skt. *durlabha*) also, the dental appears as cerebral with aspiration.

p > *ph*:

H. *phā:s*, P. *pha:ha*; *pha:ḥa*: 'snare' (Skt. *paśa*).

H. *pharsa*; P. *pharḥa*: [ph^'ra:] 'blade' (Skt. *paraśu*).

Aspiration in both these cases is due to the sibilant in the next syllable; the former may also result from an OIA form *spaśa*, cf. $\sqrt{\text{spaś}}$ 'to bind'.

In P. *phaṅgh* 'feather' (Pkt.* *paṃkha* < OIA. *pakṣa*) aspiration may be due to the aspirate in the neighbouring syllable, but H. *pā:kḥ* under the same conditions.

$b > bh$:

In H. *bhukh*, P. *bhukkh* [*p'ukkh*] 'hunger' < MIA. *buhukkha*; (Skt. *bubhukṣa*) the *h* < *bh*, left alone in the back syllable, has come to the front and aspirated the *b*.

$b < \text{OIA } v$ is also treated the same way, e.g. OIA. *va:spa* > *va:ppha*, *vappha* (*ba:ppha*-*bappha*) > H. *bha:p(h)*, P. *bha:ph* [*p'a:f*] 'steam'.

197. In MIA, non-initial stops when preceded by a sibilant appear with aspiration, usually as a result of assimilation. Hence aspiration goes back to MIA., e.g. OIA. *aṣṭa* > MIA. *aṭṭha* > P. *aṭṭh*, H. *a:ṭh* 'eight'; OIA. *śuṣka* > MIA. *sukkha* > H. *su:kha*; but P. *sukka*: 'dry'; OIA. *mastaka* > MIA. *matthaa* > P. *mattha*; H. *ma:tha*: 'forehead'; OIA. *paśca* > MIA. *paccha* > P. *piccha*; H. *pi:cha*: 'hind part'; OIA. *miṣṭa* > MIA. *miṭṭha* > P. *miṭṭha*; H. *mi:ṭha*: 'sweet'; OIA. *damṣṭra*: > MIA. (Pāli.) *da:ṭha*, (Pkt.) *da:ḍha* > H. *da:ṭh*, P. *da:ṭh* [*dà:ṭ*] etc.

198. In a few cases, Panjabi shows aspiration of *ll* (< MIA. *ll* < OIA. *ly*, *ll*, *dl*) and *l* (< MIA. *l* < OIA. *l*, *r*), e.g. *kalh* (*kallh*) 'yesterday' < *kallh* < *kall* < *kalla* (Skt. *kalya*); *gallh* 'cheek' < *gallh* < *gall* < *galla* (Skt. *galla*, cf. *galya*: 'multitude of throats'); *ma:hl* 'belt of a wheel' < *ma:hl* < *ma:ll* < *ma:lla* (Skt. *ma:lya*); *cullha*: 'fire-place' < *cullha*: < *culla* (Skt. *culla*); *halhdi*: 'turmeric' < *halhdi*: < MIA. *halidda*: (Skt. *haridra*:); *balhd* 'ox' < *balhd* (Skt. *balivarda*) beside *bald* and *bold*, etc.

Hindi, on the other hand, aspirates the resulting *l* only sparingly, which may be due to Panjabi influence, e.g. *kal* (*ka:lh* or *kalh* in dialects only); *culha*; *ga:l*, *haldi*; *palaṅg* (< *palyaṅka*) etc.

199. An initial vowel is sometimes aspirated in both Hindi and Panjabi. This tendency is, however, more prominent in the latter than in the former, thus H. *ba:r* (also *baḍḍi*); P. *baḍḍi*; *baḍḍ* 'bone' (Skt. *asthi*); H. *bōṭh* (Urdu *hōṭ*) beside *oṭh* 'lip' (Skt. *oṣṭha*); H., P. *hula:s* 'joy' (Skt. *ulla:sa*); H. *ham* < *amha* < *ahma* < *asma*

(OIA. asme), but P. asi: 'we'; H., P. hā: 'yes' (Skt. a:m̐); P. hor 'more, other', but H. or (Skt. apara); P. humm̐ (Skt. uṣma), but H. umas 'sulkiness'; P. hanera: beside anhera: (Skt. andhaka:ra) but H. ādhara: 'darkness'; P. hañjhu: beside iñjhu: (Skt. āśru) but H. ā:su: 'tear', etc.

Deaspiration

200. The OIA aspirates were deaspirated in MIA in a few cases only. One such case is OIA. śrīṅkhala: 'chain' becoming sā:kal in Hindi and saṅgal in Panjabi, which must have come through deaspiration of kh in Middle Indo-Aryan, cf. P. saṅgh 'throat', H. saṅkh 'conch' (Skt. śaṅkha).

Aspiration caused by an OIA sibilant is found sometimes lost in MIA, e.g. OIA. iṣṭa: > MIA. iṭṭa (> H. iṭ, P. iṭṭ 'brick'); OIA. uṣṭra > MIA. utṭa > H. ūṭ, but P. ūṭṭ 'camel'.

201. Hindi retains the MIA h and all the aspirates of whatever origin (coming down from OIA or developed otherwise) in all positions, whereas in Panjabi an initial h and the unvoiced aspirates alone preserve their aspiration. Thus a non-initial h and the voiced aspirates in whatever position are deaspirated in Panjabi, the aspiration being modified into a tone, e.g. loha: [lò:a:] 'iron' < MIA. lobaa (Skt. loha), cf. H. loha:; kaṭa:hi: [kəṭà:hi:] 'frying pan' < MIA. kaṭa:ha (Skt. kaṭa:ha), cf. H. kaṭa:hi:; khoḥ [khò:] 'hunger' < MIA. khoha (Skt. kṣudha:); bā:h [bā:] 'arm' (Skt. ba:hu), cf. H. bā:h; roḥ [rò:] 'anger' < MIA. roha (Skt. roṣa); ḡha:ra: [kʰə:ra:] 'pitcher' < MIA. ḡhadaa (Skt. ḡhaṭa), cf. H. ḡha:ra:; ba:ḡh [bà:g] 'tiger' < MIA. vagg̃ha (< Skt. vya:ḡhra), cf. H. ba:ḡh; d̃ha:r [r̃a:r] 'stream' (< Skt. dha:ra:), cf. H. dha:r; badd̃ha: [bʌʔdd̃a:] 'tied' (< Skt. baddha), cf. H. bādha:; < dudd̃ha [dùdd] 'milk' < MIA. duddha (< Skt. dugdha), cf. H. dūdh; sañjh [sʌʔñj] 'evening' < MIA. sañjha (< Skt. sandhya:), cf. H. sā:jh; j̃hi:r, j̃hi:ur [cʰi:r, cʰi:ur] 'water-bearer' < MIA. j̃hi:vara (< Skt. dh̃i:vara, cf. H. j̃hi:var; j̃hat [cʰʌʔ] 'at once' (Skt. j̃haṭiti), cf. H. j̃hat; √bujjh [bùjj] 'to know' < MIA. √bujjha (< Skt. √budh-ya), cf. H. √bujh; d̃hi:ṭṭh [tʰi:ṭṭh] 'obstinate' < MIA. d̃hiṭṭha (< Skt. d̃hṛṣṭa), cf. H. d̃hi:ṭṭh; paṛh [pʌʔr] 'to read' < MIA. √paḍha (< Skt. √paṭh), cf. H. √paṛh; budd̃ha: [bùdd̃a:] 'old man' < MIA. budd̃ha (< Skt. vj̃ddha), cf. H. buṛha:; b̃hatt [pʌʔtt] 'boiled rice' < MIA. bhatta

(< Skt. bhakta), cf. H. bhakt; bhikkh [p'ikkha] 'alm' < MIA. bhikkha (< Skt. bhikṣa:), cf. H. bhiḥ; jibh [jib] 'tongue' < MIA. jibbha (< Skt. jihva:), cf. H. jibh; gabbhaṇ [gʌ'bbāṇ] < MIA. gabbhīni (< Skt. garbhīni:), cf. H. ga:bbhin, etc.

Loss of one of the two aspirates occurring in consecutive syllables is a case of haplology which is seen in both Hindi and Panjabi. The latter, however, modifies the remaining h into tone. Thus P. mǎhga: [mǎ'ga:] < MIA. mahaggha 'dear' (< Skt. maharḡha), H. mǎhga: (mahāga:); P. dāhiṇḍi: [dā'iṇḍi:], also dāhiṇḍi: 'vessel for curd' < dāhihaṇḍi: (< Skt. dadhi-bhaṇḍa); H. dāhēḍi:; P. lohāṇḍa: [lo'aṇḍa:] also luhaṇḍa: 'frying pan' < lohāṇḍa (< Skt. lauha-bhaṇḍa); P. lohṭia: [lōṭia:] 'iron-monger' < lohā-haṭṭia (< Skt. lohā-haṭṭika); P. mǎh [mǎ'] 'buffalow' < mǎh < mahīh < *mahimṣi (< Skt. mahiṣi:); but in H. bhāēs, E. P. mhāēs, mhāēs haplology does not take place due to [s] being not changed to [h]. P. patyōhra: (< Skt. pitriyāśvaśura), malyōhra: (< Skt. matulaśvaśura), dadyōhra: etc. are, also the result of haplology. ōhra: [ō'ra:] in all these cases comes from OIA. śvaśura through sahura > hahura > ahura.

202. A final h in an unaccented syllable is altogether lost in Panjabi, whereas it remains in Hindi, e. g. P. yarā:; gyarā: 'eleven' < egarah < ega:raha < ega:rasa (< Skt. ekadaśa:), but H. gyarah; P. barrā: 'twelve' < barrah < barraha < barrasa (< Skt. dvadaśa:), but H. barrah; P. terā: 'thirteen' < terah < teraha < terasa (< OIA. *trayadaśa) but H. terah; P. cōdā: 'fourteen' < caudaha < cauddaha < cauddasa (< Skt. caturdaśa:), but H. cōdah, etc.

203. Words of Perso-Arabic origin ending in h after a long vowel also lose their aspirate in Panjabi, when it occurs in an unaccented syllable, e. g. P. baḍā: (colloquially baḍā:ā) 'king' (Pers. paḍā:h), but H. baḍā:h; P. sahi: 'right' (Arab. sahi:h). Hindi also has sahi:. The h after a short unaccented vowel is, however, lost in both Hindi and Panjabi in lengthening the vowel, thus Pers. ca:rah > H., P. carra: 'remedy'; Pers. zya: dah > H., P. zyada: 'more'; Pers. bandah > H., P. banda: 'human being'; Pers. na:gah > H., P. na:ga:, etc.

204. A final h < MIA. s or h in monosyllables or after an accented vowel is reduced to tone in Panjabi, e. g. saḥ [sà:] 'breath' < sa:h < MIA. sassa (Skt. śvaśa:); viḥ [vi:] 'twenty' < vi:h < vi:s < MIA. vi:sa (Skt. vimśati, vimśat), tiḥ [ti:] 'thirty' < ti:h

ti:s < MIA. ti:sa (< Skt. *trīṣaṭ*); pāja:h [pāja:] 'fifty' < pāja:h < Panj. Pkt. *pañja:sa (< Skt. *pañcaṣaṭ*); vya:h [vyà:] 'marriage' < vya:h (< Skt. *vivaḥa*); gha:h [k'a:] 'grass' < gha:h < MIA. gha:sa (Skt. *ghaṣa*); mū:h [mū:] 'mouth' < muh < MIA. muha (Skt. *mukha*); mī:h [mī:] 'rain' < mī:h < mēh < MIA. meha (Skt. *megha*), etc.

Perso-Arabic words also reduce their final h to tone under the same conditions in Panjabi, e.g. Pers. *raḥ* > P. *ra:h* [rà:] 'way'; Pers. *gunah* > P. *guna:h* [gūnà:] 'sin'; Pers. *mallaḥ* > P. *mala:h* [mālà:] 'boatman' etc.

Hindi in all these cases retains s or h, as the case may be, as well as the Persian h; thus H. *sā:s*, *bī:s*, *tī:s*, *pacā:s*, *byā:h*, *ghā:s*, *mūh*, *mēh*, *ra:h*, *gunā:h*, *malā:h*, etc.

205. If Hindi and Panjabi oblique singular *ghore*, *ghore* respectively, be assumed to have developed from MIA genitive singular *ghoḍayassa* (Skt. *ghoṭakasya*), the loss of h < s would be along the following lines: Pkt. *ghoḍayassa* > Apbh. *ghoḍa[y]ahu* > *ghodehu* > **ghodeu* > *ghore*. Similarly in nominative plural H. *ghore*, P. *ghore* (OIA. *ghoṭakebhiḥ* > Pkt. *ghoḍaehiṃ*, *ghoḍehi* > Apbh. *ghoḍahi* > *ghoḍai*). P. *akkhī*: 'with eyes', *hatthī*: 'with hands' etc. have also developed through loss of h in Pkt. *akkhihiṃ* (> *akkhi*) *hatthehiṃ* (> *hatthei*) etc.

In present optative or conjunctive II sing. H. *kare*, P. *karē* < Apbh. *karahi*, *karasi* < Pkt. *karasi* (Skt. *karoṣi*); H. *cale*, P. *callē* < Apbh. *calahi* < Pkt. *calasi* (Skt. *calasi*), present optative, conjunctive or imperative II pl. H. *calo*, P. *callo*, *calo* < Apbh. *calabu* < Pkt. *calaha* (Skt. *calatha*) etc., the Middle Indo-Aryan h is lost in both Hindi and Panjabi (cf. Braj. *karahi* beside *karai*, *calahi* beside *calai*, *calahu* beside *calau*).⁵⁸

Cerebralisation

206. The tendency to cerebralise started early in Old Indo-Aryan. In the Vedic texts we find quite a large number of words with a cerebral in non-final position, e.g. *nikāṭa*, *vikāṭa*, *√ghaṭ*, *√paṭh*, *ki:kāṭa*, *aṛḍhya*, *daṇḍa*, *vaṣṭi*, *mṛṣṭa*, *nīḍa*, *ḍṛḍha* etc. We need not go here into the pros and cons of the old theory of Dravidian influence. What is certain is the conditions under which a dental became a

58. As a matter of fact, the use of the forms with h is a matter of literary tradition and this continues upto the present day.

cerebral in Old Indo-Aryan. The development might have been the result of the change of *r* to *l* in the east, and with an inter-dialectal mix-up, which started very early, the eastern forms with *l* and *ṭ* might have been carried into the western dialects as early as the 10th century B.C. or even earlier, as has been very brilliantly pointed out by Dr. Suniti Kumar Chatterji.⁵⁹ But it is yet to be known how the *l*, if it was a dental or alveolar *l*, could have a cerebralising effect on the dental stop.

207. The tendency to cerebralise appears to have become very strong in Middle Indo-Aryan. Even in the North-western dialects which preserved the group *r+t* we find numerous examples of cerebralisation; thus *kartavya* > *kaṭava*; *artha* > *aṭha*; *prati* > *paṭi*, *vardha* > *vaḍha*, *bhṛta* > *bhaṭa*; *kṛta* > *kaṭa* etc. In some cases cerebralisation is seen in the vicinity of a sibilant also, e.g. *auśadha* > *oṣuḍha*; *sthitika* > *ṭhitika*, *dvādaśa* > *duvaḍasa* (Mansehra). Pāli, which is now considered to be based on a Mid-land dialect, has a large number of words where cerebral appears for the dental, thus *haṭa* < *hṛta*; *paṭhama* < *prathama*; *paṭhavi* (also *pathavi*) < *prṭhivi*; *vya:vata* < *vya:prṭa* etc. These words may have come from the eastern dialects which had the tendency to pronounce *l* for *r*. But there are cases in Pāli where cerebralisation is found even without the *r* or *l* being in the vicinity of a dental to influence it, e.g. *kathita* < OIA. *kvathita* (Pkt. *kaḍhita*, H. *kaṛhi*; P. *kaṛhi*); *paṭaṅga* < OIA. *paṭaṅga*; *daṃsati* < OIA. *daśati*; *vaṭaṃsa* < OIA. *avataṃsa*; *śakuna* < OIA. *śakuna*; *jñāṇa* < OIA. *jñāṇa*, etc. The *r* for the *d* in the numerals for eleven, twelve, thirteen, fifteen, seventeen and eighteen is also a case of cerebralisation: *ekairasa* (also *eka:dasa*) < OIA. *ekadaśa*; *barasa* < OIA. *dvādaśa*; *terasa* < OIA. **trayadaśa*; *pannarasa* < OIA. *pañcadaśa*; *sattarasa* < OIA. *saptadaśa*; *aṭṭharasa* < OIA. *aṣṭadaśa*. In this case the cerebralisation appears to be on account of the sibilant *ś* in the next syllable. Thus cerebralisation cannot always be referred to the change of *r* to *l* in the east.

Dr. Banarsi Das considers Panjabi to be a non-cerebralising dialect.⁶⁰ He has examined the cases where *ṛ* and *r*, the chief cerebralising agents, could have exerted their influence, had Panjabi been a cerebralising dialect. The examples quoted by him are, however, common to Hindi and many other New Indo-Aryan.

59. *Origin and Development of the Bengali Language*, pp. 483 ff, (Calcutta, 1926)

60. *Phonology of Panjabi*: 169, p. 87 (Lahore, 1934).

languages and, properly speaking, they only go to prove that Panjabi, like many other New Indo-Aryan languages, comes from a dialect which was non-cerebralisising in the Old Indo-Aryan or Early Middle Indo-Aryan stage. Thus in *bhraṭṣ*, *maṛita*, *rodana*, *prathilla* (Skt. *prathama*), *ghṛta*, *hṛdaya*, *mṛta*, *tṛtiya*, *kṛta*, the dental stop did not become cerebralised through the influence of *ṛ* or *r*, otherwise it would not have subsequently disappeared in the so-called Mahārāṣṭrī Prakrit stage and given such cognate forms in most of the New Indo Aryan languages as H. *bhaiṭ*, P. *bhaiṭ*, M. *bhaiṭ*, B. *bhaiṭ* 'brother'; H. *ma'ra*, Braj. *ma'ryau*, P. *ma'rya*: 'struck'; H. *rona*, P. *rona*: 'the act of weeping'; H. *pæhla*, P. *pæhla*, M. *pahila*: 'first'; H. *ghi*, P. *ghēo* 'clarified butter'; H. *hiya*, P. *hiya*, M. *hiyya*: 'heart'; H. *muā*, *marā*, P. *moēa*, *marēa*, B. *mara* 'dead'; H. *tiṭ* 'third day of the lunar month', P. *tiṭja*, *tiṭa*: 'third'; H. *kiya*, but P. *kitta*: (t in this case is retained and lengthened which is difficult to explain) 'did' etc.

208. In cases where the *r* is immediately followed by a dental stop or the *r* follows a dental stop, the dental remained and assimilated the *r*. Thus the cognate forms in Hindi and Panjabi appear with the dental as in many other languages: OIA. *vartika*: > MIA. *batria*: > P. *batri*, H. *batri*, M. *vart*, B. *batri* 'wick'; OIA. *varṭa*: > MIA. *vatta*: > P. *bart*, H. *bart* 'matter'; OIA. *caturtha* > MIA. *cauttha* > P. *cōtha*, H. *cōtha*, M. *cautha*: 'fourth'; OIA. *saṛthā* > MIA. *sattha* > H. *saṛth*, M. *sath* (P. *saṛthi*: < OIA. *saṛthika*); OIA. *caturdaśa* > MIA. *cauddaha* > H. *cōdah*, P. *cōdā*, M. *cauda*, *cavda*, B. *caudda* 'fourteen'; OIA. *kurdati* > MIA. *kuddai* > H. *√kuḍ*, P. *√kudd*, M. *kudṇē* 'to jump'; OIA. *gardabha* > MIA. *gaddaha* > H. *gadha*, B. *gadha*, but M. *gaḍhav* 'donkey'; OIA. *ardha* > Pkt. *addha* > H. *aḍh*, P. *addh*, M. *aḍha*: 'half'; OIA. *putra* > MIA. *putta* > H. *put*, P. *putt*, M. *put*: 'son'; OIA. *patra* > MIA. *patta* > H. *pat*, P. *patt*, M. *pat*, B. *pata*: 'leaf'; OIA. *gṛddhra* > MIA. *giddha* > H. *giḍh*, P. *giddh*, M. *giḍh* 'vulture', etc.

There is, however, quite a good number of words where the OIA dental appears as cerebral. These may be held as loans from some ancient cerebralising dialect as the cognate forms are found with cerebral in most of the New Indo-Aryan languages. Thus the dental in Skt. *mṛttika*: appears as cerebral in P. *miṭṭi*, H. *miṭṭi*, *maṭṭi*, *maṭṭi*, and in cognates in all other NIA languages except Marathi which has

mati: with dental t. Similarly the dental in Skt. *udvartana* is found as cerebral in many languages, cf. H. *ubṭan*, P. *vaṭna:*, M. *uṭnē* 'unguent'.

Skt. *chardati* and *kapardika:* appear with the cerebral in both Hindi and Panjabi as in many other languages, cf. H. $\sqrt{\text{chor}}$, P. $\sqrt{\text{chadd}}$ 'to leave', Braj. *chāḍ*, M. *sāḍnē*; H. *kṛi:*, P. *kṛdi:* 'cowry shell'. The cerebral in H. *baṭ* 'road' (Skt. *vartma*) is, perhaps, to distinguish it from *baṭ* 'thing, matter' (< Skt. *varṭa:*). But it appears in P. *vaṭ* (E. P. *baṭ*), M. *vaṭ* also and should, therefore, go back to Middle Indo-Aryan. The long *a:* in P. *vaṭ*, however, is not normal for Panjabi. Hence the word must be an imposed Hindi form with long *a:*.

209. In the doublets H. $\sqrt{\text{kait}}$, P. $\sqrt{\text{katt}}$ 'to spin' < $\sqrt{\text{kṛt}}$ (*kṛnatti*) and H. $\sqrt{\text{kāt}}$, P. *kāṭ* 'to cut' < *kṛt* (Skt. *kṛntati*); H. *bati:*, P. *batti:* 'wick' and H. *baṭi:* 'rolled bread' or 'ball', P. *baṭi:* (also *vaṭi:*) 'small ball', both from OIA. *vartika:* or *vatti* ($\sqrt{\text{vart}}$ 'to roll') the cerebral distinguishes the meaning.

P. $\sqrt{\text{vadh}}$ [*v^d*] 'to increase' (Skt. *vardhate*) and $\sqrt{\text{vaḍḍh}}$ [*v^ḍḍ*] 'to cut' (Skt. *vardhati*) are also doublets, one with the dental and the other with the cerebral, to keep distinction of meaning. But Hindi has $\sqrt{\text{baḥ}}$ ⁵¹ 'to increase' with cerebral only.

210. The cerebral in Hindi *buṛha:*, *buddha:* (the latter is a loan from Panjabi), P. *buddha:* 'old man' (Skt. *vgddha*) goes back to MIA (Pāli) *vuddha*, *buddha*. Similarly in H. *ḍeṛh*, P. *ḍuṛh* 'one and a half' (Skt. *dvyardha*), the second cerebral goes back to Pāli *divaḍḍh*, Pkt. *diyaḍḍha*. It appears in Marathi *ḍiḍh* also. The initial *d* is cerebralised in Hindi and Panjabi on account of the second cerebral; cf. Hindi *ḍhiṭh*, P. *ḍhiṭh* (Skt. *dhṛṣṭa*), P. *ḍhaṭṭha:* < *ḍhaṭṭha:* < **dhvaṣṭa* (Skt. *dhvasta*).

211. A dental stop assimilates the *r* it precedes immediately, and remains dental in Hindi and Panjabi. The cases where it is cerebralised due to the influence of the *r* are rare. Instances of such cerebralisation are, however, found more in Panjabi than in Hindi; thus P. *ḍaḥna:* (< *ḍaḥna:*) 'to stretch' (Skt. *draḥgate*); P. *ḍunna:* 'cup of leaves' (Skt. *droṇa*), cf. H. *dona:*; *ciṭṭa:* 'white' (Skt. *citraka*) is common to Hindi and Panjabi, but in the former it should be a loan from the latter (cf. H. *ci.ta:*) which, again, appears to have borrowed

it from some other dialect, perhaps, to distinguish it from *citta*: 'leopard' (Skt. *citraka*).

212. The tendency to cerebralise a dental in the vicinity of a cerebral is, strangely enough, more common when the cerebral occurs in the next syllable or at a distance than when it follows immediately; thus H. *dā:d*, *daṇḍa*; P. *daṇḍa*: (Skt. *daṇḍa*); H. *ḍhi:ṭh*, P. *ḍhi:ṭh* (Skt. *dhṛṣṭa*); H. *√tut*, P. *√tutt* (Skt. *trutyati*), H. *ḍeṭh*, P. *ḍu:ḍh* < Pkt. *divaḍḍha* (Skt. *dviardha*); P. *ḍahiṇḍi*: (Skt. *dadhi-bhaṇḍa*), but H. *dahēṇi*:; P. *ḍiṭṭha*: 'seen' (Skt. *ḍṛṣṭa*), H. *ḍiṭh* 'sight' (Skt. *ḍṛṣṭi*); H. *ṭhaṇḍha*; P. *ṭhaṇḍha*: 'cold' < Pkt. **thaṇḍha* < *thaḍḍha* (Skt. *stabḍha*); H., P. *ḍar* 'fear' (Skt. *dara*); H., P. *ḍor* 'thread' (Skt. *ḍoraka*); H. *ḍa:ṭh* beside *da:ṭh* 'tooth', but P. *ḍa:ṭh* only; H. *tōḍ*, *dōṛa*; P. *ḍoḍḍa*: *poppy-head* (Skt. *tunḍa*) (?); H., P. *ṭunda*: 'armless' (Skt. *tunḍa*); P. *ṭukkar* 'piece of bread' if from Vedic *tvaktra*;⁶¹ P. *ṭhara*: 'old' (Skt. *sthavira*), cf. M. *ther*; P. *tur(ṇa)*: (Skt. *√tvar*) is pronounced as *ṭur(ṇa)* at Lahore and Amritsar.

213. In some cases cerebralisation is found without the dental being in the vicinity of a cerebral. This is common to Hindi and Panjabi, and also to many other languages, thus W.P. *√ḍajjh* 'to burn' (Skt. *dahyate*), M. *ḍa:jñē*; H., P. *dol* 'water-vessel' (Skt. *dola*); H. *√ḍas*, P. *√ḍass* 'to bite' (Skt. *daś*); H., P. *√nacor* 'to squeeze' (Skt. *niścotate*); H. *√paṛ* 'to lie down' < Pkt. *paḍai* (Skt. *patati*), but P. *pāna*: (cerebralisation in this case goes back to MIA and appears in Marathī and Gujrati also). In *uppaṇa*: 'to reach' (< *utpatati*), however, the cerebralisation is found in Panjabi also.

Anaptyxis

214. The kind of anaptyxis found in the Vedic language is known as *svaṛabhakti*. It was used in-between the consonant-groups with *r*, perhaps to keep the rythm of the metre, e.g. *indra* is pronounced as *indāra*. In Pāli and other Prakrits where anaptyxis is frequent and probably served a different purpose, the phenomenon is known by the name of *viprakarṣa*. The difference between the

61. The short *a* with single consonant is difficult to explain unless we assume that the parent Prakrit of Hindi had already reduced the conjunct *ḍeḥ* < *rdh* to single *ḍh*. Panjabi *√vaḍh* with single *ḍh* is another case which supports this assumption; cf. M. *va:ḍhṇe* 'to increase'. In fact, the change is recorded in the older Prakrits from which it descended to the Hindi Prakrit.

62. Found in *Nirukta*, I. 9, p. 35, (Panjab University, Lahore, 1927) in 'niṣṭvak-trāsaḥ' which my revered teacher Dr. Lakshman Sarup used to explain as meaning 'without food' instead of 'without garments'.

two kinds of anaptyxis and the reason for a different nomenclature lies in the time taken by the pronunciation of the intruded vowel in each case. While *svarabhakti* is said to be $\frac{1}{2}$ or $\frac{1}{4}$ *matrākāla*, the other was slightly prolonged. It is also worthy of note that Pāli has in some cases both the *tadbhava* and *semi-tatsama* forms of the same word, the former being the result of assimilation whereas the latter is on account of *viprakarṣa*; e.g. OIA. *padma* > *pomma* and *paduma*; OIA. *sneha* > *neha* and *sineha*; CIA. *tṛṣṇa* > *taṇha*; and *tasiṇa*; OIA. *tikṣṇa* > *tikkha* and *tikhṇa*; *raḥṣāḥ* > *rañṇa* and *raḥṣāḥ* etc. A *semi-tatsama* form, however, has sometimes prevailed with the result that the *tadbhava* form has been ousted from the language. Thus OIA. *surya* appears as *suriya* alone in Pāli, the expected *tadbhava* form, found as *suija* in later Prakrits, having been disappeared.

215. Anaptyxis in Middle Indo-Aryan generally appears in conjuncts with y, r, l, v or a nasal, e.g. OIA. *vyapṛta* > *biyaputa* (N. W. Pkt.); OIA. *aṇṇya* > *anaṇiya* (N. W. Pkt.); OIA. *varyate* > *variyate* (Pāli); OIA. *karmaṇya* > Pāli *kammaṇiya* beside *kammaṇṇa*; OIA. *śakya* > *sakiya* (E. Pkt.); OIA. *maḍhurya* > *maḍhuriya* (N. W. Pkt.), *maḍhuliya* (E. Pkt.); OIA. *kartarya* > *kaṭariya* (E. Pkt.); OIA. *garha* > *garaha* (S. W. Pkt.); OIA. *hiranya* > *hiraṇiya* (S. W. Pkt.); OIA. *apunya* > *apuniṇa* (S. W. Pkt.); OIA. *dve*, *dvi* > *duvi* (Sbg.); OIA. *dvaḍaśa* > *duvaḍaśa* (E. Pkt.); OIA. *pūrva* > *puluva* (E. Pkt.); OIA. *varṣa* > *varisa* (AMg.); OIA. *sarṣapa* > *sarisava* (AMg.), but Pāli *sasapa*; etc. The forms with anaptyxis, though these sometimes appear to be *tadbhavas*, are actually *semi-tatsamas* or survivals of the *semi-tatsamas* developed in an earlier stage. As borrowings from Sanskrit have been coming into Middle Indo-Aryan in all the periods of its history, the *semi-tatsama* element has always been present in the language. And it is this element which is responsible for the anomalous development of many New Indo-Aryan words. Thus H. *baras*, P. *varṣa*: [v^h ra:] 'year', H. *sarsō*, P. *sarḥō*, [s^h rō] 'rape seed'; H. *arisi* 'mirror' go back to such MIA forms with anaptyxis as *varis* (AMg.), **sarisapa*, **aḍarasiḥ*: (< **aḍarasiḥ*) for Sanskrit *varṣa*, *sarṣapa*, *aḍarasiḥ*: respectively: cf. P. √*vass* 'to rain' (Skt. *varṣati*), AMg. *vas* 'year' (< *vassa* < *varṣa*), Pāli *sasapa* 'rape seed'.

216. The *semi-tatsama* forms with anaptyxis were fairly common in old Hindi and Panjabi, and their number in the colloquial

speech is still very large. The following are a few of them, which are common to both the languages :

jantar 'incantation, instrument' < Skt. yantra (cf. tdb. P. jandra; 'lock'); mantrar 'charm' < Skt. mantra (cf. tdb. P. mand, H. mant); ratan 'jewel' < Skt. ratna; janam 'birth' < Skt. janma; karam 'action' < Skt. karma; bhagat (P. bhagat) 'devotee' < Skt. bhakta; bharam (P. bharam) 'false knowledge' < Skt. bhrama; murat 'picture' < Skt. murti; murakh 'foolish' < Skt. murkha, etc.

But in the present-day literary Hindi the *semi-tatsama* forms have been mostly suppressed due to its tendency to use *tatsama* forms only. Literary Punjabi, on the other hand, has progressively borrowed Sanskrit words in the recent years, but the inadequacy of the script and the linguistic ignorance on the part of the people who use this language for literary purposes have turned them into *semi-tatsamas* leading to a kind of pseudo anaptyxis; for example, the Skt. *spaṣṭa* is written as *sapaṣaṭa* and pronounced as *sapaṣṭ*, and Skt. *śṛṣṭi* is represented by *sariṣaṭi* in writing, in which case anaptyxis in the first syllable may be due to the change $\text{ṣ} > \text{ri}$, but it may be more due to bad spellings, while in the second syllable where there is no anaptyxis in the actual pronunciation the intrusion of vocalic element shown in writing is due to the inability of the Gurmukhi script to represent the conjunct consonants. Anaptyxis in the following cases also appears to be on account of bad spellings or inadequacy of the script: para:cin 'ancient' < Skt. pra:cina; parsiddh 'famous' < Skt. prasiddha; sathu:l 'concrete' < Skt. sthu:la; pra:pat 'obtained' < Skt. pra:pta; sareṣṭ 'best' (written as sareṣaṭ) < Skt. śreṣṭha; yatha:rath 'real' < Skt. yatha:rtha; sathir 'motionless' < Skt. sthira; satha:i 'permanent' < Skt. stha:yi; su:kham 'minute' < Skt. su:kṣma; a:tama; < Skt. atma:, etc.

In a few words which are not modified Sanskrit borrowings, but rather seem to be *tadbhavas*, anaptyxis appears due to the influence of Lahndā; thus P. bhēra: 'brother' (Skt. bhra:tṛ), cf. Lah. bhira:, H. bhari:; P. gārā: 'village' (Skt. grāma), cf. Lah. girā:, H. gā:w, P. gāra:s, gāra:hi: 'morsel' (< Skt. grā:sa), cf. Lah. girā:h, H. ga:s.

In P. ṛsāla:h, H. ṛsāra:h 'to praise' (< Skt. śla:ghate), however, anaptyxis is found in both Hindi and Panjabi.

Insertion of Stops

217. Sometimes when the nasal *n* or *m* precedes *r* or *l* with or without an intervening vowel a voiced stop of the same class as the nasal is inserted after it. Skt. *sundara* < *sunara* shows this tendency to have existed in some dialects of Old Indo-Aryan. The following words in Hindi and Punjabi are the result of this tendency :

ndar < *nar* :

H. *bandar*, P. *bandar* 'monkey' (Skt. *vanara*), H. *pandrah*, P. *pandrā* 'fifteen' < *pandarāh* < *panarah* < MIA. *pannarasa* (Skt. *pañcadaśa*); H. *basandar*, P. *basantar* 'fire' (Skt. *viśva:nara-vaiśva:nara*). The unvoiced *t* in P. *basantar* is difficult to explain.

mb < * *mbr* < *mr* :

In the words where *mb* (or *b*) appears for OIA. *mr* in Hindi and Panjabi, the change *mr* > *mb* goes back to Middle Indo-Aryan. This change is difficult to explain unless we assume an intermediary stage between OIA and MIA when a voiced bilabial stop *b* was introduced between *m* and *r*.⁶³

Thus H. *tā:ba:*, P. *ta:mba:* 'copper' < MIA. *ta:mba* < **ta:mbra* < OIA. *ta:mrā*; H. *bā:bi:* 'snake's hole' < *bambi:* < *vambri:* < CIA. *vamri:*, P. *amb* 'mango' < MIA. *amba* < * *ambra* < OIA. *a:mrā*.

mbil < *mbil* < *ml* :

The tendency goes back to MIA (cf. J. Pkt. *amba*, *ambila* from *amla*, Pischel, 295) and is found in the colloquial Panjabi of the illiterates only.

Thus *imbli:* 'tamarind' < *ambilia:* < OIA. *amlīka:*, but *imli:* in standard Panjabi; the same in Hindi.

mbal < *mal* :

P. *cambal* 'eczema' (same in Hindi) and *nimbal* 'clear weather' appear to be the result of the insertion of *b* in *mal*; thus *carmala* > *cammbala* > *cambal*; *nirmala* > *nimmbala* > *nimbal*.

Metathesis

218. Metathesis is a very old tendency and finds a prominent mention in the memorable work of Yāska⁶⁴. Hindi and Panjabi both have a few *tadbhavas* which result from metathesis in the MIA stage, e.g. H., P. *halka:* 'light' < MIA. *halukka* < *lahuka* < OIA. *laghuka*; H. *ghar*, P. *ghar* 'house' < MIA. *ghara* < *gahra* < *garha* < OIA. *gṛha*;

63. Pischel: *Grammatic der Prakritsprache*, 295.

P. kṛṣṇa: 'bitter' < kauṣa: < Panj. Pkt. *kauṣa < kaṣua < OIA. kaṣuka, but H. karva:; H., P. cīrva: 'flattened rice' < cīdiva < civida < OIA. cipita; H. kāmha 'Lord Krishna' < MIA. kaṇha < kaṇa < OIA. kṛṣṇa; H. bahin 'sister' < MIA. bahini < bhaini < OIA. bhagini; but P. bhāṇ; H. √naba:; P. √nha: 'to bathe' < nha: < hna: < OIA. √sna:; H. bamhaṇ 'first among the four castes in Hindus' (dialectal) < MIA. bamhaṇa⁶⁵ < OIA. br̥hmaṇa, etc.

The tendency persists in New Indo-Aryan but generally in borrowed foreign words, mostly of Turkish, Perso-Arabic and English origin, spoken by the illiterate people; thus H., P. tamga: 'medal' < tagma: (through Persian); P. (colloquial) ka:ccu: 'knife' < ca:ku: < Turk. ca:qu: (through Persian); H., P. (colloquial) matbal 'purpose' < matlab; P. nuksa: 'prescription' < Pers. nusxa:; P. (col.) ka:ja:k 'paper' < Pers. ka:gaz; H. siṅgal, P. saṅgal < Eng. signal; H. deks, P. dēks < Eng. desk; P. hṛla: 'light' (adverb hṛli: 'lightly', H. hṛle 'lightly' is probably a loan from Panjabi) is due to double metathesis, the second being in the NIA stage; OIA. laghuka > lahua > halua > haula > hṛla: (cf. Av. harua). Metathesis in H. ki:caṛ 'mud' is also a development in the NIA stage; OIA. cikṛiṭa or cikṛaṭa (cikṛida) > MIA. cikṛaḍa > ki:caṛa > ki:caṛ, cf. P. cikṛaṛ.

64. *Nirukta*, 2.1 (p. 44), Lahore, 1927.

"athāpyādyantaviparyayo bhavati, atokāḥ, raijuḥ, stikāḥ, tarkuṭi."

65. *Mṛcchakaṭika*, I. 8. 26 (p. 5) edited by V. G. Pranjape, Poona 1937. AMg. and Jain Mahārāṣṭri, however, show bamhaṇa (Pischel 250, 267).

APPENDIX

Hindi Vowel Phonemes :

The phonemic distinction between the short and long vowels /ə a:/, /i i:/, /u u:/ is shown by the following minimal pairs :

/ə/	/a:/	/i/	/i:/	/u/	/u:/
[sʌr]	[sa:r]	[sir]	[si:r]	[sur]	[su:r]
'lake'	'essence'	'head'	'partnership'	'musical note'	'brave'
[eʌr]	[ca:r]	[cir]	[ci:r]	[bura:]	[bu:ra:]
'spy'	'four'	'long'	'cut'	'bad'	'powder'
[sʌt]	[sa:t]	[sit]	[si:t]	[sut]	[su:t]
'essence'	'seven'	'white'	'cold'	'son'	'thread'
[kʌl]	[ka:l]	[di:]	[di:d]	[ku:]	[ku:l]
'yesterday'	'time'	'day'	'poor'	'family'	'bank of a river'
[chʌl]	[cha:l]	[sira:]	[si:ra:]	[suna:]	[su:na:]
'deceit'	'bark'	'end'	'syrup'	'heard'	'vacant'
[gʌli:]	[ga:li:]	[mil]	[mi:l]	[guda:]	[gu:da:]
'street'	'abuse'	'meet'	'mile'	'excretory organ'	'pulp'

It may, however, be stated that the long-short contrasts with regard to the i, u are of a very low frequency and they are restricted mostly to the medial position.

The phonemic distinction between the front vowels e and æ, and the back vowels o and ɔ may be seen in the following pairs :

/e/	/æ/	/o/	/ɔ/
[mel]	[mæ:l]	[dɔl]	[dɔ:l]
'meeting'	'dirt'	'vessel for drawing water'	'physique'
[beɪ]	[bæɪ]	[khol]	[khɔl]
'creeper'	'ox'	'to open'	'to boil'
[seɪ]	[sæɪ]	[or]	[ɔr]
'seer'	'outing'	'direction'	'and'

For the sake of economy the number of vowel phonemes may be reduced by setting up a supra-segmental phoneme of length [-]. Thus there may be seven simple vowel phonemes : /ə, i, u, o, æ, ɔ/ and two diphthongal phonemes /ai, au/.

In this case, the phoneme [ə] shall have three allophones [ʌ], [ə] and [a]. The last which is phonetically an open back vowel appears only before length, and the other two, [ʌ] and [ə], which are phonetically half-open central vowels occur in stressed and unstressed syllables respectively. This description is perhaps complicated. It may also be subjected to the objection that [ʌ] and [a] are fundamentally different and their difference is not on the same level as that of the short and long varieties of *i* and *u*. As a solution to this problem, [a:] may be added to the above list as a separate phoneme.

ai, *au* have been listed as diphthongal phonemes, because they are always monosyllabic, and hence do not pattern as vowels in sequence.

Hindi Consonant Phonemes :

For minimal pairs see under 'A Comparison of the Phonemic Systems of Hindi and Panjabi'.

[d] and [r] are separate phonemes, although no minimal pairs are available for contrast. In almost all the situations, [d] and [r] are in complementary distribution, and they would have been allophones of the same phoneme, had there been no borrowings in the recent years. Thus

[d] occurs initially ; [r] does not occur in that position.

[d] occurs medially :

- (i) before the aspirate [dʰ] or the nasal [m] ;
- (ii) after the nasal [n] or [ɳ] or a short or long nasalised vowel ;¹
- (iii) as a geminated or long consonant between two vowels.

[r] occurs medially, but in the following different situations :

- (i) before voiceless stops or the nasal [ɳ] ;
- (ii) after the nasal [m], voiceless and voiced stops or the lateral [l] ;
- (iii) as a single consonant between two vowels.

[d] occurs finally after the retroflex nasal or a long nasalised vowel. As a long consonant it follows a short vowel only.

[r] occurs finally but not in these positions. It follows a non-nasalised short or long vowel only.

1. This analysis is based on the standard pronunciation of Hindi as current in Delhi and among the Urdu speakers all over Northern India.

Examples :

[d]: [dʌr:] 'fear'; [buddha:] 'old man'; [kudmɔl] 'bud'; [pʌndit] 'a learned man'; [gəḍeri:] 'a small piece of sugarcane'; [mūḍna:] 'to shave'; [gʌddi:] 'a small bundle'; [dʌnd] 'punishment'; [khāḍ] 'sugar'; [khʌḍ:] 'pit' etc.

[r]: [hɔrta:] 'strike'; [uṛna:] 'to fly'; [cʌmra:] 'leather'; [chʌkra:] 'cart'; [jhʌgra:] 'dispute'; [pʌlra:] 'scale'; [uṛan] 'flight'; [bher] 'sheep', etc.

But there are such Sanskrit words as [aḍʌmbɔr] 'show', [viḍʌmbɔna:] 'farce', [aḷoḍḍɔn] 'agitation' etc., though used in the learned speech only, where [ḍ] occurring intervocally contrasts with [r], because the latter also occurs in the same situation. English [soḍa:] is another loan which shows the same contrast.

In [niḍʌr] 'fearless', [suḍɔl] 'of good physique', [ʌḍig] 'firm' etc., which are the real Hindi words, the seeming contrast may be explained as due to their being compounds formed by prefixing [ni], [su], [ʌ], etc., which cause a slight pause.

In [gəḍʌri(y)a:] ~ [gɔrʌri(y)a:] 'shepherd' and [laḍ] ~ [la:r] 'affection', the [ḍ] is in free variation with [r] intervocally and finally.

[dh] and [r̥h] have been analysed to be the members of the same phoneme. The [dh] occurs initially, medially after the [d] or a nasalised vowel, and finally after a nasalised vowel only. The [r̥h], on the other hand, occurs medially between two vowels or between a vowel and a consonant, and finally after a non-nasalised vowel.

Examples :

[dh]: [dhol] 'drum'; [buddha:] 'old man'; [dhəḍhora:] 'declaration with the beat of a drum'; [dhūḍh] 'search' (Imp.) etc.

[r̥h]: [ga:r̥ha:] 'thick'; [bʌr̥hti:] 'progress'; [ba:r̥h] 'flood'.

In [niḍha:] 'weary', the [dh] remains owing to the prefix [ni]; cf. P. [nāṭa:] where the prefix does not affect the following consonant.

Panjabi Vowel Phonemes :

The short vowels ɔ, i, u differ from the long vowels a:, i:, u: phonetically as well as phonemically. The phonemic contrasts may be illustrated as follows :

/ə/	/a:/	/i/	/i:/	/u/	/u:/
[chʌl]	[cha:i]	[piɾ]	[pi:r]	[puɾa:]	[pu:ra:]
'deceit'	'jump'	'open ground'	'pain'	'kind of paper package'	'kind of bread'
[gʌl]	[ga:l]	[siɾa:]	[si:ra:]	[buɾa:]	[bu:ra:]
'neck'	'abuse'	'end'	'syrup'	'bad'	'powder'
[vʌl]	[va:l]	[ciɾ]	[ci:r]	[suɾ]	[su:r]
'crease'	'hair'	'long'	'cut'	'musical note'	'hog'
[mʌn]	[ma:n]	[diɳ]	[di:n]	[buɾ]	[bu:r]
'mind'	'respect'	'day'	'helpless'	'fur'	'blossoming'

/e/ contrasts with /æ/, and /o/ contrasts with /ɔ/ in the following pairs :

/e/	/æ/	/o/	/ɔ/
[bəl]	[bæɪ]	[koɾa:]	[kɔɾa:]
'creeper'	'ox'	'whip'	'bitter'
[mɛɪ]	[mæɪ]	[kol]	[kɔɪ]
'meeting'	'dirt'	'near'	'cup-like utensil'
[sɛɪ]	[sæɪ]	[p'oɾa:]	[p'ɔɾa:]
'seer'	'outing'	'slight'	'bee'
[jɛ]	[jæ]	[c'ola:]	[c'ɔla:]
'if'	'victory'	'bag'	'dim appearance'
[mɛra:]	[mæra:]	[joɾa:]	[jɔɾa:]
'mine'	'porus land'	'pair'	'twin'

As regards setting up a phoneme of length and thereby reducing the number of vowel phonemes in Panjabi, the same remarks as about the Hindi vowel phonemes apply to Panjabi.

/ai, au/ are monosyllabic in Panjabi as in Hindi.

Panjabi Consonant Phonemes :

For minimal pairs see under (63-67). [d] and [ɾ] are separate phonemes, since [d] and [ɾ] both occur intervocally, although they are in complementation otherwise. In Hindi the complementation of [d] and [ɾ] has been disturbed by the extraneous element of loans, but here the disturbing factor is not extraneous but the genius of the language itself.

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ERRATA

- P. xix, l. 7 : read or for of.
- P. 5, l. 16 : read /s, z, ś, y, v, r, l/ for /s, z, ś, y, v/.
- P. 5, l. 18 : add /səNrāksəṇ/ 'protection' ; /səNla:p/ 'conversation'.
- P. 25, l. 12 : correct 'true' to 'anxiety'.
- P. 25, l. 17 : read mōkkhōn as mōkkhōṇ.
- P. 45, l. 4 : read kə'nda: as kə'ṇḍa: .
- P. 61, l. 10 : read paṇi: as pa:ṇi: .
- P. 65, l. 1 : read 'aloeswood' for 'essence'.
- P. 65, l. 22 : correct P. to H.
- P. 69, l. 19 : read ḍaen as ḍaṇ.
- P. 72, para 4,
l. 6 : correct chaḷnā: to callnā: .
- P. 80, l. 5 : read nacc for nacca.
- P. 116, l. last
but two : read budhepa: as budheppa: .
- P. 117 (iii) (d),
l. 18 : correct massi: to ma:ssi: .
- P. 125, l. 12 : read > between bha:ph [p'a:f].
- P. 126, l. 14 : read duddh for duddha.
- P. 130, l. 14 : read ki:ttā: for kitta: .
- P. 132, l. 12 : read da:ṛh for ḍa:ṛh.
- P. 136, l. 14 : correct dḷks to ḍḷks.

